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ABSTRACT

This document reports on a program seen as an integral part of a total educational development plan for migrant children. The Early Childhood Education Learning System is an instructional program which includes staff development and parent-school-community involvement. Focus is on the special learning problems of Mexican-American children and the development of bilingual competence. A total of 98 3- and 4-year-old migrant children participated during 1968-1969. Program evaluation is viewed as a continuing process. Part of this evaluation was a pre- and post-testing on the Preschool Attainment Record (PAR) of 2 groups of children, a migrant group from the Early Childhood Education system and a non-migrant group from regular day care centers. On the pretest, the non-migrant children scored higher. However, the posttest showed that the children in the experimental program made greater developmental gains than the other children. Children whose teachers had high scores on the Minnesota Teacher Attitude Inventory performed better on the PAR than students whose teachers had low scores. Parents who participated in the parent activities scored higher on an educational attitude scale than non-participating parents. (MH)

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EVALUATION REPORT
1968–1969

EARLY CHILDHOOD EDUCATION LEARNING SYSTEM
FOR
THREE– AND FOUR–YEAR–OLD MIGRANT CHILDREN
MCALLEN, TEXAS

PS 003215

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July 31, 1969

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Gentlemen:

In accordance with the requirements of the Southwest Educational Development Laboratory's contract with the Office of Economic Opportunity, we hereby submit an Evaluation Report of the Early Childhood Education Program for Migrant Children for the period October 15, 1968, to June 30, 1969.

As you know, the beginning date of the Early Childhood Education Program development at McAllen was delayed because of a funding delay. The Laboratory, in an effort to overcome this time constraint, attempted to accelerate program development schedules.

The original schedule called for an entire system of sequential activities to be ready for pilot test and refinement by Spring 1969. The revised timetable now schedules the pilot testing of the complete instructional sequence in the fall of 1969.

We are making every effort to produce a systematic instructional program, including staff development and parent-school-community involvement components, which capitalizes on the native language (Spanish) and travel experiences of the children in the target populations. Evaluation of the results of this instructional program is a continuing process and is used extensively in planning future activities.

Respectfully submitted,

Edwin Hindsman
Edwin Hindsman
Executive Director

EH:ap

Enclosure

FOREWORD

Few educational efforts in recent years have held higher priority than efforts to improve the early learning and development of young children. The rapid rate of language and intellectual development in the early years is well documented. This growing awareness of the importance of early learning has prompted widespread efforts to provide early childhood education programs for children who live in a poverty environment. Nowhere are such efforts more needed than with children of migratory farm workers in Texas, who suffer not only the usual problems associated with poverty but also the additional frustrations of migration and exposure to a dominant society that uses a langauge different from their own. This report of results of the first year's activities with three- and four-year-old migrant children offers considerable encouragement for improvement in their early development.

Although many persons worked on the evaluation and in the preparation of this report, special acknowledgment should go to Mr. Ben Dowd and Mrs. Marnee Loftin, who compiled the report. They received assistance from Mr. Hugh Poynor on data analysis, editorial assistance from Mr. Rodman Porter and Mrs. Norma Foreman.

The implications of this evaluation report are already affecting the design of next year's instructional program and have contributed to complementary efforts, the most notable of which is a project following migrant children and their families to Michigan. The continuing development of the program should provide young migrant children with a stronger education than migrant children have had before.

Robert S. Randall
Division Director
Program Research and Evaluation

The evaluation reported herein was conducted by the
Southwest Educational Development Laboratory
pursuant to a contract with the
United States Office of
Economic Opportunity

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ABSTRACT

The Early Childhood Education Learning System was envisioned as an integral part of a total educational development system for the migrant child. The systematic instructional program would include staff development and parent-school-community involvement components. It would also capitalize on the migrant children's native language (Spanish) and their travel experiences. The main purpose of this evaluation report is to review the past year's activities at the Migrant Early Childhood Demonstration Project at McAllen, Texas, so that plans and refinements of activities and materials for the next funding period could reflect the findings.

The specific objectives of the Migrant Early Childhood Education Project at McAllen, Texas, were:

- To design and pilot test an instructional system for three- and four-year-old migrant children and to refine the program in light of information from evaluation;
- To design, pilot test, and refine a Parental-School-Community Involvement Component as an integral part of the Early Childhood Learning System for preschool migrant Mexican American children;
- To conduct a continuing process and product evaluation effort directed toward evaluating each phase of the system development process as well as the education products.

Major findings and conclusions are:

1. Children of migrant Mexican American parents of low socioeconomic background are more educationally handicapped than are children of non-migrant Mexican American parents of similar economic background. The difference of mean scores of the two groups on the pretest of the Preschool Attainment Record was statistically significant.

2. The gain in developmental level of migrant children who participated in the Early Childhood Education System was significantly higher than the gain of the non-migrant children who participated in a regular day care system. This finding is supported by an analysis of the pre-post differentials on the Preschool Attainment Record.

3. In general, students who had teachers who scored high on the Minnesota Teacher Attitude Inventory produced higher total scores on the PAR than did students who had teachers who scored low on the Inventory.

4. Parents who participated in a planned program of activities scored higher on a quantified schedule ascertaining attitude and behavior in relation to their child's education than did parents who did not participate in such activities.

The general results stated above and other specific findings included in the body of this report indicate that:

- The Early Childhood Education Learning System should be continued without major change but with possible adjustment of intensity in certain curriculum areas.
- The Parent Involvement Component should be continued but should place more emphasis on personal contact between parent and teacher.
- The ancillary services concomitant with the Early Childhood Education Learning System should be continued with increased emphasis on the parent's role in the health of the child.

A modified curriculum will be used at the McAllen Center in 1969-70. The program developed at the Laboratory's San Antonio center, which places heavy emphasis on cognitive development in a half-day program, will be adapted and used at McAllen.

Decisions as to other changes will be made subsequently.

THE EARLY CHILDHOOD EDUCATION DEMONSTRATION PROJECT

The objectives of the Early Childhood Education Project are parallel to objectives of the Southwest Educational Development Laboratory: to accelerate desirable educational changes by developing and demonstrating models for creative teaching, curriculum design, and school organization that meet the needs of children who historically have been outside the main channel of educational and economic opportunity in this geographic area. The general objectives of the Early Childhood Project are in harmony with the broad objectives of the McAllen Independent School District: to provide each child the best education possible as preparation for living in a democratic society.

In terms of behavioral results, the pupils in the Demonstration Project were expected to bridge the cultural and experiential gaps necessary for effective participation in the mainstream of the educational process. The educational experiences and ancillary services provided the pupils in the Project were based on previously identified and continuously evaluated needs of these pupils.

A Laboratory survey of the needs of the five- and six-year-old migrant children at McAllen revealed voids in language development, physical development, preschool readiness and social-emotional development. Objectives of the Early Childhood Program included helping the three- and four-year-old migrant child develop:

1. A concept of self as a person with value both as an individual and as a potential contributing member of various groups.
2. Basic cognitive skills concomitant with bilinguistic development.

3. Oral competence in his native tongue, Spanish, equivalent to that of children not economically deprived.
4. Oral competence in English as a second language utilizing an American dialect considered standard for the region.

Data were collected throughout the year pertinent to the Early Childhood Education Learning System, including its instructional materials, staff development, and parent-involvement components. The data were ordered to test certain working hypotheses. These working hypotheses were:

HYPOTHESIS I - The educational handicap for children of like ethnic and socioeconomic status will be greater for children who travel a portion of the year with migrant parents than for children whose parents are not migrants.

HYPOTHESIS II - A planned Early Childhood Education System will raise the developmental levels of the migrant Mexican American child from a low socioeconomic background more than a regular day care system will raise the developmental level of the non-migrant Mexican American child from a similarly low socioeconomic background.

HYPOTHESIS III - The pupils taught by teachers who scored higher on the Minnesota Teacher Attitude Inventory will achieve greater developmental gain than will children taught by teachers who scored lower on the same instrument.

HYPOTHESIS IV - Parents involved in the Parent Involvement Component of the Early Childhood Education System will score higher on an instrument measuring attitudes toward the participation in their children's education than will parents not participating in that program.

HYPOTHESIS V - Children whose parents are involved in the Parent Involvement Component of the Early Childhood Education System will achieve greater physical, social, and intellectual development than will children of similar background whose parents are not involved in that particular program.

DESCRIPTION OF PROJECT

Approximately 98 three- and four-year-old children were selected for participation in the Early Childhood Education Learning System in McAllen, Texas, during the 1968-69 school year. The participants were selected from among three- and four-year-old migrant children eligible under Office of Economic Opportunity criteria, with priority given to children whose families had the lowest incomes. An additional criterion of physical well being was added. Children who had major physical defects and/or illnesses were excluded. All the children's parents were migrant agricultural workers. The fathers had a mean educational equivalent of 5.9 years of school; the mothers, 5.5 years. Table 1 presents information regarding the age range and sex of the participating children.

Table 1

	Age Range *	Male	Female	Total
Three-year olds	36.3 - 47.3	15	23	38
Four-year olds	48.0 - 59.6	30	30	60

* Computed in months of age as of Sept. 1, 1968.

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The children attended classes in rented classrooms at a parochial school, Our Lady of Perpetual Help. Six rooms were provided for classes. An office for the parent-school-community involvement staff and a room for ancillary staff members were also provided. Each room was of normal classroom size, 700 to 750 square feet. Special adaptations were made to increase each room's suitability for occupation by preschool children.

The teaching staff consisted of six teachers and six aides, representing a pupil-adult ratio of 8:1. Classes, which began in September and ended May 13, were in operation from 8:30 a.m. to 1:30 p.m. each day.

A typical daily schedule for the Early Childhood Education System follows:

8:30 - 9:30 -- Individual attention and/or small group activities for each child. For example, visual skills activities, free play, and health check with nurse.

9:00 - 9:30 -- Routines connected with breakfast.

9:30 - 10:15 -- Small group activities: children rotate through language activities, dramatic play, art and related activities, and music.

10:15 - 10:45 -- Motor skills, either outside or inside, water, and restroom.

10:45 - 11:30 -- Group activities in math, science, auditory skills, and story time (not all areas on the same day).

11:30 - 12:30 -- Preparation for lunch followed by lunch, toothbrushing, and preparation for nap.

12:30 - 1:45 -- Nap time on cots.

1:45 - 2:00 -- Group preparation for going home.

BASIS OF CURRICULUM

The Demonstration Project for Early Childhood Education focused on the special learning problems of Mexican American children and emphasized the development of bilingual competence. The curriculum for children of preschool age included sensory experiences, provided models and patterns, and offered opportunities to relate to others through cognitive and communicative skills. Three concepts served as the basis for program content and activities:

1. **A child responds to his environment intuitively. His relationships with the physical world and his predictions are based on his ideas about adult life. He develops personalized meanings through sensory experiences — those involving his eyes, ears, fingers, nose, and mouth. Processing data through sensory experiences helps him determine his relationships with the social world.**
2. **By observing the regularity of cause and effect processes, the young child can discover patterns and evolve generalizations. Perceiving a pattern gives balance and purpose to the arrangement and interrelation of parts and reveals structure. Young children need concrete experiences from which patterns may be generalized in the world about them.**
3. **Experiences and then patterns require a symbol system which is meaningful both to the child and others. Through linguistic symbols, ideas are formed and structured. Therefore, language serves the dual processes of thinking and the communication of thought to others.**

INSTRUCTIONAL COMPONENTS

The three underlying concepts described above were implemented by: (1) providing an environment for learning; (2) providing selected educational experiences; (3) developing the child's ability in his native language; and (4) developing the child's use of English as a second language.

Environment For Learning. The self-image of the pupil was recast by means of positive, effective, supportive learning situations. These structured situations permitted self-expression and demonstrated acceptance of the child as a worthy individual.

Educational Experiences. Cognitive processes, learning styles, and conceptualization were developed and supported by concrete experiences and guided by principles of learning.

Native Language Development. Learning activities at first were conducted in Spanish, the native language of the child. The refinement and further expansion of the Spanish lexicon and syntax proceeded throughout the system. Classroom instructions were given in Spanish to insure that the child at all times understood what was asked and expected of him.

English as a Second Language. Oral English was introduced gradually in short systematic sequences. Teaching sequences were created from lessons planned for developing fluency in English for self-identification, daily communications of basic needs, and the expression of personal perceptions of the environment. Phonemic problems occurring from the juxtaposition of English on the native dialect (Spanish) habits were dealt with as they occurred within the language patterns being learned, rather than by dictating or restricting the choice of language. Facility in the effective use of English as a second lan-

guage was achieved by establishing control of the basic syntactical formulae, utilizing meaningful lexical content.

DAILY INSTRUCTIONAL ACTIVITIES

Experimental group instructional activities provided time for small group, full group, and individual experiences. All included practice in oral Spanish and English in an informal setting. The child was continuously encouraged to express his reaction to all experiences and to verbalize his awareness of his environment. His full participation in each activity was sought for maximum response to each different situation.

The small groups were divided according to "interest clusters," some pupils choosing individual activities, others selecting story-telling groups conducted by teacher aides, and several others electing to hear records.

Within a two-hour time block, the pupil rotated through a sequence of activities which the teacher or aide recorded on a program chart, documenting the pupil's pattern of choices to reveal what he found interesting or challenging. For example, a visual skill game was followed by a fifteen-minute period of outside activities for the entire class. All children received instruction in Spanish, built around different focal areas. Planned lessons in English were used later to reinforce the same concepts. Each child was cycled through both Spanish and English instruction at his own pace.

The system assured that each child, every day in class, had a one-to-one relationship with a responsible adult (teacher or teacher aide). A brief period of time was his very own, and he received the total attention of the adult. The child at this time was free to express himself confidently and to ask questions. This experience helped him to see himself as a person of importance, whose words prompted an encouraging response from a concerned and interested adult.

Carefully planned and well-supervised field trips were utilized and served a multi-purpose function — extending the child's experiences and providing him with a picture of himself as belonging to and functioning in the world beyond his restricted neighborhood.

The varying experiences — different group composition, different things to manipulate (blocks, tricycles, crayons), different sections of the room or the yard -- afforded each child ample opportunity for success. Each individual performance was noted by the teacher or aide in the systematic effort to develop and reinforce the pupil's self-image.

MATERIALS

A wide range of instructional materials was used to gain pupil interest; develop pupil awareness of objects, materials, and activities outside his homelife; and to stimulate the child's physical, social, and intellectual development. The following listing indicates the types of materials used in the Demonstration Project.

Table 2

200 cartridge-type recording tapes

Writing Materials
(Pencils, typewriters, ribbons
and other similar supplies)

Instructional Materials
(Supplies to be used in constructing instructional materials)

a. Materials for Play Housekeeping	Stoves, sinks, pots & pans, etc.
b. Materials for Playing with Dolls	Doll carriages, furniture, layettes, etc.
c. Materials for Doll House Play	Doll houses & furniture
d. Materials for Playing Store	Hats, etc.

e. Puppet material	Hand puppet - animals & people
f. Materials - Toys	Small toy people, animals, transportation toys
g. Toy equipment for transportation	Fire engine, bus, truck, etc.
h. Large transportation toys	Train, auto, farm tractor
i. Small toys	Train & truck set, bag of toys
j. Materials for Playing Town	Community bldgs. sets, farms, etc.
k. Materials for sensory aids	Design cubes, metal insects, etc.
l. Materials for Manipulative work	Lock boards, sewing cards, stringing beads
m. Puzzle Materials	Various puzzles
n. Materials for Magnifying	Magnifying glasses, etc.
o. Materials for Reflection and Sound	Mirrors, etc.
p. Magnet materials	Magnets, iron filings, nails, etc.
q. Living Things	Aquarium and fish
r. Records and Books	Various
s. Materials for Number Patterns	Peg boards, number sorters, domino blocks, and magnetic materials
t. Materials for Arithmetic	Counting frames, etc.
u. Materials for Relating Quantitites	Fruit plate, sandpaper numbers, etc.
v. Large Arithmetic Board	Hundreds, fractions, colored reds
w. Materials for Comparing and Measuring	Rulers, etc.
x. Materials for Time and Temperature	Clock, thermometer, etc.
y. Materials for Measuring & Weighing	Scales, tiles, etc.
z. Materials for painting & making models	Modeling clay, scissors, brushes
aa. Materials for Music	Band sets, maracas, drums, etc.
bb. Materials for Language Arts	Word sets, word puzzles, alphabets
cc. Materials for Riding Activities	Wheelbarrows, handtrucks, tricycles
dd. Materials for Playing with Sand & Water	Play trays, pail & shovels, etc.
ee. Materials for Games and Physical Ed	Ropes and balls
ff. Miscellaneous Materials not included above	Paste, paper, colors, etc.

Ancillary Services

Pupils at the McAllen Early Childhood Center received four principal ancillary services: health, social, nutritional, and psychological.

Health Services. Comprehensive health services were provided each child enrolled in the Demonstration Project. Personnel at the Migrant Center, with the help of additional staff and contractual service professionals, provided these services:

- An interview with parents to obtain information on the health background of each child.
- A complete physical examination by a licensed physician.
- A hearing and vision test administered by a qualified person.
- A dental examination by a licensed dentist.
- Health education programs for parents and children.
- Immunizations for measles, polio, diphtheria, and tetanus, and tests for tuberculosis.
- Treatment of conditions discovered by examinations.
- Speech and hearing services.

A school nurse was available at the center at all times to provide specific health services as well as health education for the children.

Social Services. The goal of social services in the Demonstration Project was to support conditions for learning in which each child and parent could find opportunity for the development of his potential for contributing to family and community life. In general, a visiting teacher and a social worker on the Parent-School-Community Involvement staff provided these services to the families in the Center.

Nutritional Services. The school system prepared morning and afternoon snacks and a hot lunch for the migrant children in the Demonstration Project. The nutritional services were planned and supervised by a nutrition specialist. A balanced diet, which considered the home diet of the pupil, was provided.

An example of a typical weekly menu is provided below:

	Monday	Tuesday	Wednesday
A.M. SNACK	---------------Milk or Juice and Cookies---------------		
Lunch	Meat Loaf, Potatoes, Gravy, Coleslaw, Milk, Bread, Butter, Pudding	Tamale Pie, Carrot Sticks, Green Beans, Butter, Bread, Milk, Fruit Jello	Spanish Rice & Hamburger Meat, Fruit Salad, Buttered Cornbread, Milk
P.M. SNACK	Milk & Cookies	Chocolate Milk & Cake	French Fries

	Thursday	Friday
A.M. SNACK	Milk or Juice and Cookies	
Lunch	Hamburgers, Lettuce, Tomatoes, Potato Salad, Onions, Milk, Pink Applesauce	Fish Sticks, Tartar Sauce, Potatoes, Peas, Bread, Butter Milk, Cherry Pie
P.M. SNACK	Milk & Cookies	Juice & Cookies

Mealtimes provided informal opportunities for practicing table manners, identifying different kinds of food, and discussing proper food for physical and dental health.

Psychological Services. A team of consulting psychologists, psychometrists, nurses, community social workers, and their aides assisted each child, his family, and the school staff in achieving maximum benefit from the school experience. These services were performed as an integral part of the school day.

In general the psychological services consisted of consultant assistance in planning, evaluating, and replanning the program and for individual testing and evaluation.

PARENT INVOLVEMENT

A Parent-School-Community Involvement (PSCI) Component was an integral part of the Early Childhood Program. Approximately 76 families were contacted on a regular basis by PSCI personnel and teachers. All parents of children enrolled in the Early Childhood Project provided some assistance in the education of their children.

The staff for Parent-School-Community Involvement Component had an office at Our Lady of Perpetual Help. Staff members included a director, visiting teacher, social worker, and two community aides. All maintained close relationship with the children's families, providing information about the school, the educational role of parents, and assistance when necessary. Many activities for the families were sponsored.

The Parent-School-Community Involvement Component used various strategies and activities during the year to accomplish program objectives.

Home Visits. PSCI staff regularly visited in the homes to provide information to parents about their children's progress in school and about ways in which the parents could assist with their children's education.

Home Activities. In their own neighborhoods small groups of parents met with resource people to discuss subjects of interest to them. Some of the topics discussed were the public library and its use, techniques of story-telling, health and sanitation practices in the home, and detection of tuberculosis.

School Visits. Migrant parents were invited frequently to visit the school. In addition to participating in traditional parent-teacher conferences, parents took a more active role in the learning process. After classroom observation, many parents began to participate in classroom activities that closely paralleled the duties of a teacher aide. They also provided such volunteer activities as building playground equipment and assisting in supervising children on field trips.

Community Activities. Through discussions and field trips to community centers, parents were encouraged to participate in community activities.

Central Elementary School in McAllen, where Laboratory programs for migrant children in grades K-8 are being pilot tested, also has a Parent-School-Community Involvement Program Component. Close coordination was maintained between the separate staffs of the PSCI component at Central and the Early Childhood Project. The same strategies were used by both PSCI Components; however, home activities played a more important role in the component at Central. More intensive efforts were directed toward parents organized into small groups. Thus, a smaller percentage of parents probably were active in the PSCI Component at Central than were active in the PSCI Component at the Early Childhood Education Project.

METHODOLOGY

To provide objective comparisons which would lead to valid evaluations of its Early Childhood Education Learning System at the McAllen Center, the Laboratory selected "comparison groups." Children in the comparison groups came from the same general socioeconomic background but were participating in a different educational program. There were no other developmental educational programs in the immediate area, so the most appropriate comparison groups were pupils attending day care centers.

Children for the comparison groups were selected from three- and four-year-old Mexican American children attending McAllen, Mission, and Edinburg Day Care Centers, with funding assistance from the Office of Economic Opportunity. The children in the comparison groups are from non-migrant families; the demonstration project pupils migrate with their parents. In addition to program content differences, other differences affect attempts to make comparisons. Differences between the day care centers and the Demonstration Project are apparent in the instructional schedules, hours of attendance, teacher and support personnel, and absence or presence of such special services as the parent involvement program. To the extent possible these differences are identified in the following discussions.

THE PUPILS

For the comparisons, 55 three-year-olds and 56 four-year-olds were chosen. It was necessary to include in this "availability sample," children from three Day Care Centers. A comparison of pupils by age and center is given in Table 3.

Table 3

EXPERIMENTAL AND COMPARISON PUPILS BY CENTER AND AGE GROUP

	(Experimental)	(Comparison)		
	MCAECC[1]	MCADCC[2]	MDCC[3]	EDCC[4]
Three Year				
Male	15	10	13	8
Female	23	7	6	11
Total	38	17 +	19 +	19 = (Total - 55)
Four Year				
Male	30	11	8	6
Female	30	10	9	12
Total	60	21 +	17 +	18 = (Total - 56)
Aggregate Number by Center				
Male	45	21	21	14
Female	53	17	15	23
Total	98	38 +	36 +	37 = (Total - 111)

1 - McAllen Early Childhood Center
2 - McAllen Day Care Center
3 - Mission Day Care Center
4 - Edinburg Day Care Center

TEACHING AND SUPPORTIVE PERSONNEL

All teaching personnel and all paraprofessional aides at the Demonstration Project and at each of the Day Care Centers were female. However, there were substantial differences between the two groups in education, age, experience, and professional status.

All teachers at the McAllen Early Childhood Center held college degrees and all had a certificate or an emergency permit to teach in Texas public schools. None of the personnel at any of the Day Care Centers held a college degree; none was certified to teach in Texas public schools; none held an emergency permit to teach. The aides at the Early Childhood Center and the aides at the Day Care Centers were approximately equal in educational status with the exception that one aide at the Early Childhood Center had completed 36 hours of undergraduate college work.

In teaching experience the Early Childhood Center staff of professionals held an edge, but the Day Care Center teaching staff had an average experience in preschool programs greater than that of the professionals at the Demonstration Project.

These comparisons are summarized in the accompanying table.

Table 4

DEMOGRAPHIC DATA CONCERNING TEACHERS AND AIDES
AT THE EARLY CHILDHOOD CENTER AND THE DAY CARE CENTERS

	TEACHERS		AIDES	
DEMOGRAPHIC ITEM	McAllen E.C.	D.C. Centers	McAllen E.C.	D.C. Centers
Number (all female)	6	5	6	6
Certification Status				
Emerg. Teaching Permit	1	0	0	0
Provisional Certificate	2	0	0	0
Professional Certificate	3	0	0	0
Undergraduate degree	6	0	0	0
Educational Experience:				
General--Other than preschool yrs. (Mean yrs.)	5.7	3.6	1.5	3.0
(Range)	1-11 yrs.	1-9.5 yrs.	1-3 yrs.	1.3-6 yrs.
Preschool (Mean yrs.)	.16	5.5	1.5	2.3
(Range)	0-1 yrs.	1.5-8.5 yrs.	1-3 yrs.	0-3 yrs.
Age: Number by Age Brackets				
20 or younger	0	0	2	0
21-30	3	0	4	2
31-40	3	2	0	2
41-50	0	1	0	1
51-60	0	2	0	1

THE INSTRUCTION PROGRAM

The Day Care Centers conduct programs which closely resemble the traditional nursery school, placing heavy emphasis on free play with some attention to arts and crafts. In addition, the Day Care Centers operate year-round, and activities are scheduled from about 7:30 a.m. until about 3:30 p.m. The Centers remain open as late as 6:30 p.m. The Demonstration Project operates on a shorter day, and the program is operative only from September until May.

As Table 5 indicates, the Demonstration Project emphasizes cognitive development activities such as language development. In addition, its physical activity program is planned to give specific and separate attention to the development of the large and small muscle systems as a part of the regular class schedule. Children are encouraged to develop social poise by peer interaction activities, including discussion of their own experiences. The Day Care Centers stress play activities, development of selected peer relationships, and personal hygienic development. The centers provided, as did the Demonstration Project, morning and afternoon snacks and a hot lunch. Table 5 follows.

Table 5

ACTIVITIES BY CENTERS

TYPICAL DAILY SCHEDULE

Time Period	McAllen Early Childhood Center	McAllen Day Care Center	Mission Day Care Center	Edinburg Day Care Center
7:00 - 8:00	-	Children arrive Free play	Children arrive	Children arrive
8:00 - 8:30	-	Free play	Outside play	Outside play
8:30 - 9:00	Indiv. attention; small group activities: visual skills activities, free play, health check	Bathroom	Outside play	Music & pledge
9:00 - 9:30	Breakfast routines	Snack Roll call	Snack Roll call	Roll call Exercise
9:30 - 10:00	Small group activities; children rotate in language, dramatic play, art, music, etc.	Free play: Child's choice	Free play: blocks, easel, art, puzzles	Wash and bathroom
10:00 - 10:15	Continue as above	Continue --	Continue --	Snack
10:15 - 10:45	Motor skills (inside or outside), water, restroom	Storytime; music	Housekeeping	Art; free play
10:45 - 11:15	Group activities: math, science, auditory skills, storytime (vary by day)	Continue	Continue	Continue
11:15 - 11:30	Continue as above	Tricycles, etc.	Supervised outdoor play	Bathroom
11:30 - 12:00	Preparation for lunch;	Lunch	Lunch	Lunch
12:00 - 12:30	Lunch; toothbrushing	Bathroom; teeth	Washup-teeth	Fix cots
12:30 - 12:45	Begin nap	Continue	Continue	Continue
12:45 - 1:45	Nap	Rest	Rest	Rest
1:45 - 2:00	Prepare for Home	Rest	Rest	Rest
2:00 - 2:30	-	Rest	Rest	Rest
2:30 - 3:15	-	Free play	Rest until 3:00; snack; play until 5:00 p.m.; home	Snack-storytelling. Free play until parents pick up
3:15 -	-	Director stays until all leave		

INSTRUCTIONAL FACILITIES

All of the programs operate in what might be considered "make-shift" quarters. The Demonstration Project occupies rented classrooms and converted offices at the parochial school. The Day Care Centers occupy buildings initially intended for other purposes; one is in a building which formerly served as a church. A sparse indication of these situations is included in Table 6.

Table 6

FACILITIES

McALLEN E.C. CENTER	McALLEN DAY CARE CENTER	MISSION DAY CARE CENTER
Preschool facility Parochial school	Two-story L-shaped bldg.	White frame two-story building (formerly a church)
Rented space - six classrooms (700-750 sq. feet)	Food brought in for lunch	Classrooms divided by bookcases
Office space for Parent Involvement Staff and Ancillary staff Blacktop playground	Playground area- blacktopped but equipped with play equipment	Office space Music area Kitchen Floors vinyl covered

EVALUATION ELEMENTS

To make the objective measurements required in the Laboratory's plan for comparing results obtained in the McAllen Early Childhood Center Demonstration Project with results obtained in the Day Care Centers, the Laboratory administered a series of test instruments and obtained data from several questionnaires and other data forms. Tests, in general, had been planned for use on a pretest and posttest basis. For various reasons, however, the

Laboratory was able to administer certain instruments only once and cannot, therefore, present comparative results as to gain achieved by pupils on particular instruments. In other instances, as discussed later, the measurement of gain was achieved.

The Laboratory's instrument design provided for measurement of pupil development cognitively, socially, and physically and for measurement of mastery of particular materials used in the Laboratory program. In addition, teacher attitudes were tested, and various items of information were collected from teachers and parents by means of questionnaires.

Cognitive Measures

Pupil cognitive development was to be measured by the Laboratory evaluation staff representatives by use of the Slosson Intelligence Test, the Leiter Performance Scale, and the Preschool Attainment Record (PAR). Exhibit A on page 24 gives pertinent data concerning each of the measures.

The Slosson Intelligence Test.

The Slosson, a standardized intelligence test suitable for preschool age children, was to have been administered on a pretest basis in the first month of school and on a posttest basis during the last month of school. Experiments with the test, however, indicated problems with language factors made the test inappropriate for use with the experimental and comparison groups.

The Leiter International Performance Scale.

Because the Slosson could not be used as planned, the Leiter International Performance Scale (Arthur Adaptation) was utilized in testing a random sample of children in the program. The Leiter is, in principle, a non-verbal Binet scale for young people (ages 3-8). It was deemed especially appropriate because it reaches down to a lower age level than most

EXHIBIT A

INFORMATION CONCERNING EVALUATIVE INSTRUMENTS AND THEIR ADMINISTRATION IN THE EARLY CHILDHOOD EDUCATION LEARNING SYSTEM

Instrument	Publisher	Language	When Administered	By Whom	Qualifications of Test Administrators	Persons Taking The Test
Arthur Adaptation of the Leiter International Performance	Stoelting Co.	Non-verbal	Jan.-May	Ann Washington	M.Ed, Psychometrist McAllen ISD (trained by Mrs. Peggy Sebera)	Random sample of 16 children in the experimental program
Preschool Attainment Record	American Guidance Services	Not pertinent	Nov. and May	Teachers - experimental, G. Vallejo - comparison	Degree + additional training from Mrs. Vallejo, BA, Testing & Evaluation Specialist	All children in experimental and comparison
Child Performance Checklist	Southwest Educational Development Laboratory	English and Spanish	March - April	Graciela Vallejo	BA, Testing & Evaluation Specialist, SEDL	All children in experimental and comparison
Minnesota Teacher Attitude Inventory	Psychological Corporation	English	Nov. and May	Self-administering		All teachers and aides in experimental program
Teacher Demographic Questionnaire	Southwest Educational Development Laboratory	English	Nov.	Self-administering		All teachers and aides in experimental and comparison program
Parent Involvement Schedule	Southwest Educational Development Laboratory	Spanish	April	Bilingual interviewers from Pan American College, under supervision of Dr. Arnulfo Martinez	Interviewing experience with migrant populations	Sample of par- of children in Central & ECC

performance tests and because it is given, as standardized, without any verbal directions, thus eliminating many of the problems of testing young Spanish-speaking children. Due to logistic difficulities in obtaining the proper adaptation from the firm distributing the test and difficulty in providing a qualified person to administer the test at the site, the instrument was not administered until late in the year and then only to a random sample (N=16) of children in the experimental group. Distribution of the results can be found on page 26, Chart I.

The Preschool Attainment Record. The PAR, a research edition of a downward extension of the Vineland Social Maturity Scale, combines an assessment of physical, social, and intellectual functions of young children (ages .5 to 7.0 years). The data are compiled through interview data regarding the child's usual behavior as well as observation of actual behavior. As Dr. Edgar Doll, developer of the instrument explains: "The aim of the Record is to provide an assessment for children of preschool years with or without various types of handicaps, including social-culture...[It] provides a record of performance which is a baseline for educational planning..." (PAR Manual, p. 8).

The PAR, as mentioned previously, yields scores in three categories concerning physical, social, and intellectual development. Within the categories there are sub-areas as follows:

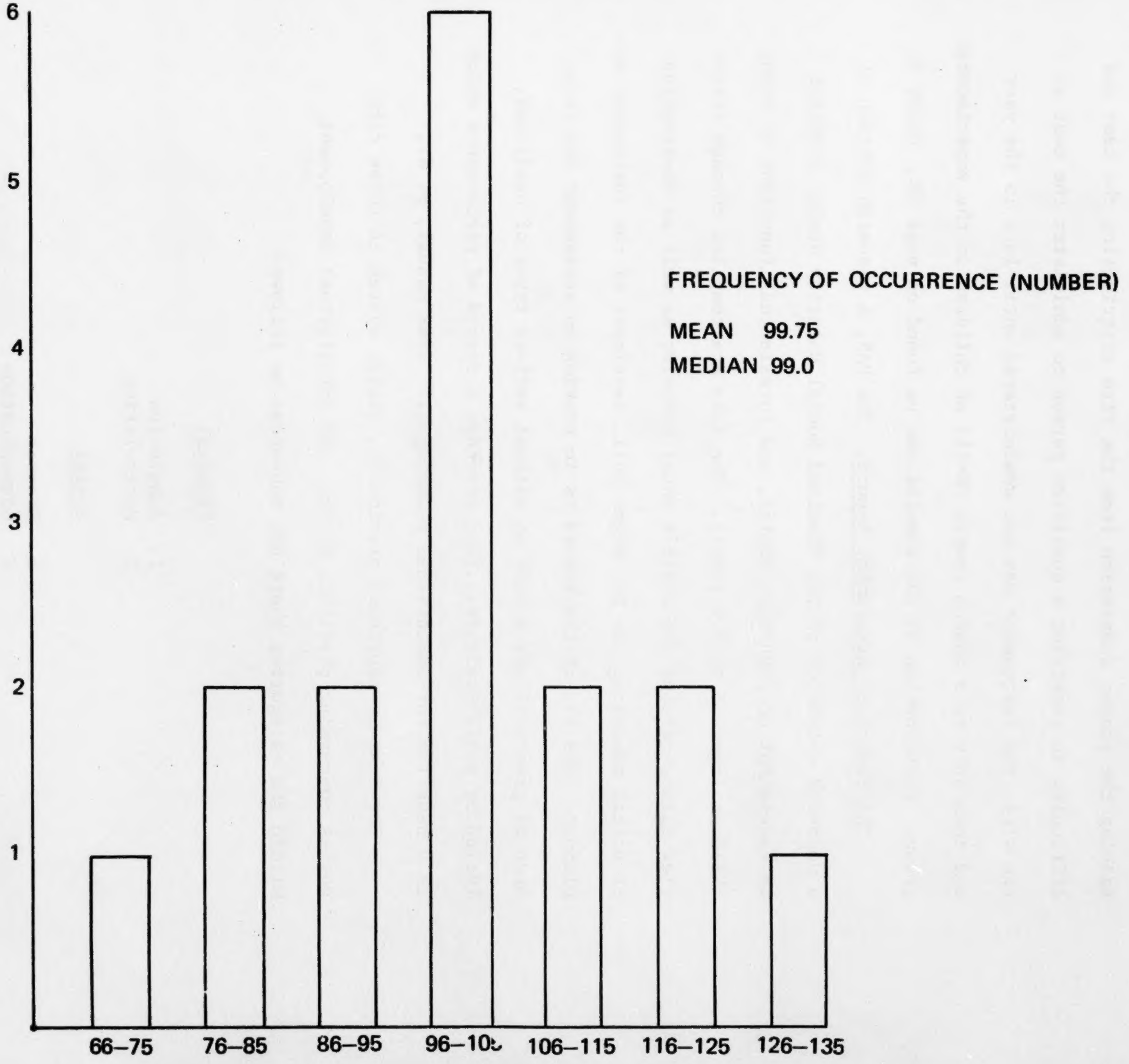
Physical

1. Ambulation
2. Manipulation

Social

1. Rapport
2. Communication
3. Responsibility

CHART I LEITER INTERNATIONAL PERFORMANCE SCALE RESULTS FROM ADMINISTRATION TO PUPILS AT MCALLEN EARLY CHILDHOOD CENTER (N–16)



Intellectual

1. Information
2. Ideation
3. Creativity

In addition to the sub-scores by category above, the PAR yields information on parental and sibling ages, education, and occupation.

An example of the format and type of levels measured is given in Exhibit B on page 28.

Since the PAR has not been standardized, a graphic comparison of scores achieved by a random sample of children, has been plotted for both the Leiter and the PAR on Chart II on page 29.

Mastery Measures

The tests previously described do not, of course, provide any specific indication of the extent to which pupils are learning the particular instructional content of a given curriculum. The Laboratory uses mastery tests for this purpose. For its early childhood programs, the Laboratory has developed a series of tests that it has entitled the Child Performance Checklist.

Child Performance Checklist. Based on the particular objectives of the Laboratory's early childhood curriculum, the Child Performance Checklist yields a score in each of three categories: visual, auditory, and conservation. The test program provides a series of nine sequenced forms, separately translated in Spanish as well as English, progressing from less difficult to more difficult items in each category. An example of an item for each of the first two categories follows:

PAR

American Guidance Service, inc.
PUBLISHERS' BUILDING, CIRCLE PINES, MINNESOTA 55014

EDUCATIONAL TEST BUREAU
AGS

Name________________________

Date________________________

Examiner____________________

SCORES

In Years	In Months
LA ______	LA ______
MA ______	MA ______
†AA ______	††AA ______
*AQ ______	
IQ ______	

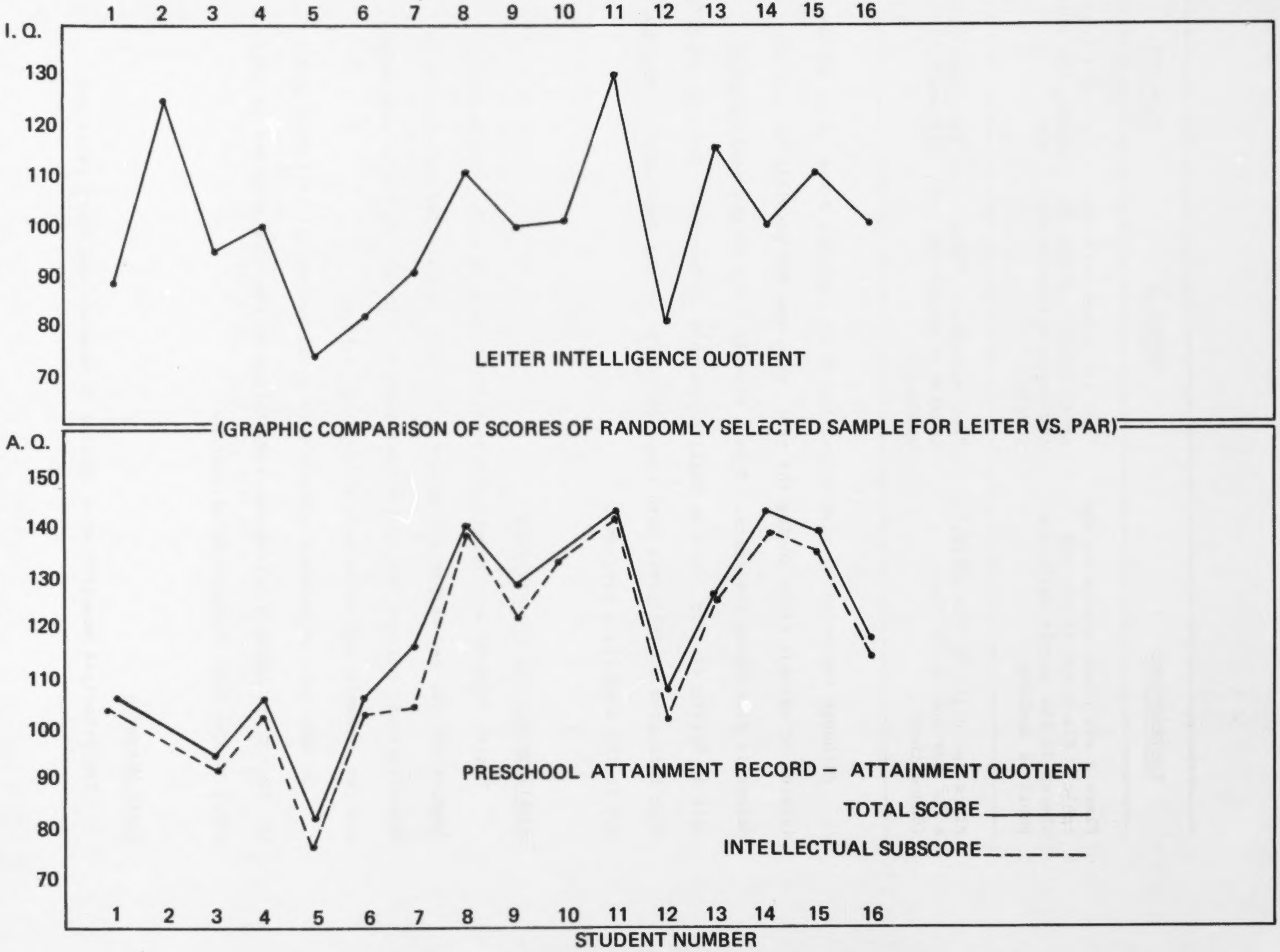
EXHIBIT B

SUMMARY AND PROFILE

	Age in Years	0 to .5	.5 to 1.0	1.0 to 1.5	1.5 to 2.0	2.0 to 2.5	2.5 to 3.0	3.0 to 3.5	3.5 to 4.0	4.0 to 4.5	4.5 to 5.0	5.0 to 5.5	5.5 to 6.0	6.0 to 6.5	6.5 to 7.0	Items Passed by Category
	Age in Months	0-6	6-12	12-18	18-24	24-30	30-36	36-42	42-48	48-54	54-60	60-66	66-72	72-78	78-84	
PHYSICAL	Ambulation	1 Sits	9 Stands	17 Walks	25 Runs	33 Balances	41 Climbs	49 Jumps (1)	57 Hops	65 Circles	73 Skips	81 Jumps (2)	89 Follows Leader	97 Dances	105 Rides Vehicles	Ambulation
	Manipulation	2 Reaches	10 Grasps	18 Marks	26 Unwraps	34 Disassembles	42 Assembles	50 Throws	58 Catches	66 Draws Square	74 Blows Nose	82 Draws Triangle	90 Fastens Shoes	98 Colors to Line	106 Cuts and Pastes	Manipulation
SOCIAL	Rapport	3 Regards	11 Attends (1)	19 Initiates	27 Discriminates	35 Complies	43 Plays Beside (a)	51 Plays With (b)	59 Plays Coop. (c)	67 Attends (2)	75 Sings	83 Helps	91 Plays Pretend (d)	99 Plays Compet.(e)	107 Plays (f)	Rapport
	Communication	4 Babbles	12 Vocalizes	20 Imitates	28 Invites	36 Speaks	44 Talks	52 Converses	60 Relates	68 Describes	76 Recites	84 Prints	92 Copies	100 Reads	108 Adds	Communication
	Responsibility	5 Nurses	13 Chews	21 Rests	29 Minds	37 Conserves	45 Takes Care	53 Gets Drink	61 Dresses Self	69 Toilets Self	77 Cleans Up	85 Respects Property	93 Conforms	101 Cooperates	109 Observes R.	Responsibility
INTELLECTUAL	Information	6 Recog-Few (a)	14 Recog-Many (b)	22 Recog-Use (c)	30 Recog-His (d)	38 Fondles	46 Knows Sex	54 Tells Name	62 Names Objects	70 Knows D-N	78 Names Coins	86 Knows Age	94 Knows A.M.-P.M.	102 Knows R-L	110 Knows Address	Information
	Ideation	7 Resists	15 Identifies	23 Gestures	31 Matches	39 Counts 2	47 Comp. Size (1)	55 Counts 3	63 Comp. Texture (2)	71 Counts 4	79 Comp. Weight (3)	87 Names Colors	95 Beats Rhythm	103 Counts 13	111 Tells Hour	Ideation
	Creativity	8 Demands	16 Tests	24 Transfers	32 Explores	40 Tears	48 Dramatizes S. (1)	56 Builds	64 Draws	72 Moulds	80 Dramatizes M. (2)	88 Paints	96 Invents Stories	104 Solos	112 Experiments	Creativity
	Items Passed by Age Periods															Raw Score*

*"Raw Score" is the total number of items successfully passed allowing half credit for ± scores.
†"Attainment Age" in years is determined by dividing raw score by 16 (16 items per year).
††"Attainment Age" in months is determined by multiplying Raw Score by .75 (8 items per 6 months interval).
*"Attainment Quotient" is determined by dividing Life Age into Attainment Age and multiplying by 100.

CHART II



(GRAPHIC COMPARISON OF SCORES OF RANDOMLY SELECTED SAMPLE FOR LEITER VS. PAR)

INSTRUCTIONS	STIMULUS	RESPONSE
Place a six-piece puzzle on the table. Place two of the six pieces in the puzzle while the pupil is looking.	"Pon los demas pedacitos en su lugar. (Point to the empty spaces on the puzzle.)"	The pupil completes the puzzle.
Place two bells on the table, a "G" bar and an "E" bar. (Sound them)	"Pon atencion. "¿Son iguales o diferentes los sonidos?"	"Yes, they are different."

Although the original plan called for three separate forms to be administered at various times during the year, this was not possible because of delays in developing the tests. Form A (Levels 3 and 4) was administered only in Spring of 1969, once in English and once in Spanish. The Laboratory's Site Evaluator administered both tests to pupils in the Experimental Program and in the comparison programs.

Ancillary Service Measurements

Health records were maintained on all children in both experimental (demonstration) and comparison groups. The reports provided information on immunizations, hearing and vision test results, changes in height and weight, and the presence and correction of physical defects.

In addition, attendance reports were submitted on all children, with the record including a percentage computation of the time attended as compared to the days of possible attendance.

Staff Measures

Two principal measures were applied to teacher and other personnel.

The Minnesota Teacher Attitude Inventory (MTAI). The MTAI is a standardized instrument which assesses teacher attitudes toward children and toward teaching. Teachers and aides took the examination before the school year began and again near the close of the school year of the Demonstration Project and the day care center programs.

The Teacher Demographic Questionnaire (TDQ). The Laboratory's TDQ, completed by the teacher or aide calls for basic information on education, experience, and specific preparation for preschool or other assignment. It was self-administered on the first day of the training session.

Parental Involvement Measures

Two principal measures were used directly to measure the Parent-School-Community Involvement Program (PSCI) programs: a parent interview schedule and a log of family participation activities.

Parent Involvement Interview Schedule. Parents of children enrolled in the McAllen Early Childhood Center who had participated in the Parent-School-Community Involvement activities, were interviewed in Spanish at the end of the school year at either the Center or at the McAllen Central Elementary School campus.

These interviews were conducted by Laboratory-trained, bilingual students at Pan American College, under the supervision of Dr. Arnulfo Martinez. All had prior experience in interviewing migrant populations in the Valley. Additional parents were included to establish various comparison siutations. The following stratifications were possible:

1. Families who had children enrolled in the McAllen Early Childhood Center (ECC) and in no other, or had children enrolled in the Center and in a school other than Central Elementary School (The Migrant Center School). (N=20) (Hereafter designated as Group T-1)
2. Families who had children enrolled both in the ECC and in Central Elementary. (N=20) (Hereafter designated as Group T-2)
3. Families with children enrolled in Central Elementary who participated in home group meetings. (N=19) (Hereafter designated as Group T-3)
4. Families who had children enrolled only in Central Elementary but who, the records indicated, were not enrolled in Parent-Involvement activities. (Hereafter designated as Group T-4)

In each group alternates were provided. Also questions were directed in relation to a specified child in each family.

Family Information Log. The community agent kept a log of each family's participation in the project. This log contained demographic information about the family as well as anecdotal records concerning staff visits to the home and parents' return visits to the school.

FINDINGS AND CONCLUSIONS

The instruments administered and the data collected concerning the pupils, the staffing, and the program elements permitted a number of comparisons. The comparisons provide some indications of the effects of the Experimental vis-a-vis the Day Care Programs. The broad question as to the relative benefits of one program, as compared to the other, was stated in terms of the hypotheses contained in the project description (see p. 4). To test these hypotheses within the constraints of the test and instrument administrations possible during the 1968-69 school year, the Laboratory established a series of statistical comparisons between the pupils in the McAllen Early Childhood Center and the pupils in the comparison Day Care Centers at McAllen, Mission, and Edinburg. These comparisons relate to the change in scores achieved by pupils enrolled in each program on the Preschool Attainment Record (PAR) and the Child Performance Checklist.

Hypothesis I

> The educational handicap for children of like ethnic and socioeconomic status will be greater for children who travel for a portion of the year with migrant parents than for children whose parents are not migrants.

To determine whether, at the beginning of this Project in the Fall of 1968, there was any significant difference in the development level of migrant and non-migrant children, comparisons were made of beginning scores of the three- and four-year-old children in the McAllen Early Childhood Center and at each of the Day Care Centers. The Preschool Attainment Record was the basis for this measurement.

Finding: A comparison of the mean average score on the PAR for the pupils follows:

Table 7

MEAN SCORES ON THE PAR, FALL, 1968
EXPERIMENTAL AND COMPARISON GROUPS[1]

Age Group	Experimental Children	Comparison Children	Comparison - Experimental
Three-year olds	103.7	130.3	26.6*
Four-year olds	106.9	116.4	9.5

*Significant to the (p=.05) level

1 - Additional statistical detail is provided in Appendix E. The data are identified as referring to this table.

Conclusion: The educational handicap, hypothesized for migrant children is borne out statistically in this study for three-year olds, whereas a trend towards this handicap is evidenced for four-year olds.

Hypothesis II

> A planned Early Childhood Education Learning System will raise the developmental level of migrant Mexican American children from a low socioeconomic background more than a regular day care system will raise the developmental level of non-migrant Mexican American children from a similarly low socioeconomic background.

To determine whether the Experimental System produced the hypothesized results, Pre-Post lines were plotted for both the three- and four-year-old Experimental and Comparison groups for each of the sub-areas tested. See Charts III and IV on pages 35 through 39. An analysis of the gain differential between groups and an analysis of variance for sub-scores were also applied to the data. These latter statistical details may be found in Appendix E.

CHART III

PRE–POST LINES FOR MAJOR PRESCHOOL ATTAINMENT RECORD SUB-AREAS FOR THE MC ALLEN EARLY CHILDHOOD CENTER 1968 – 69

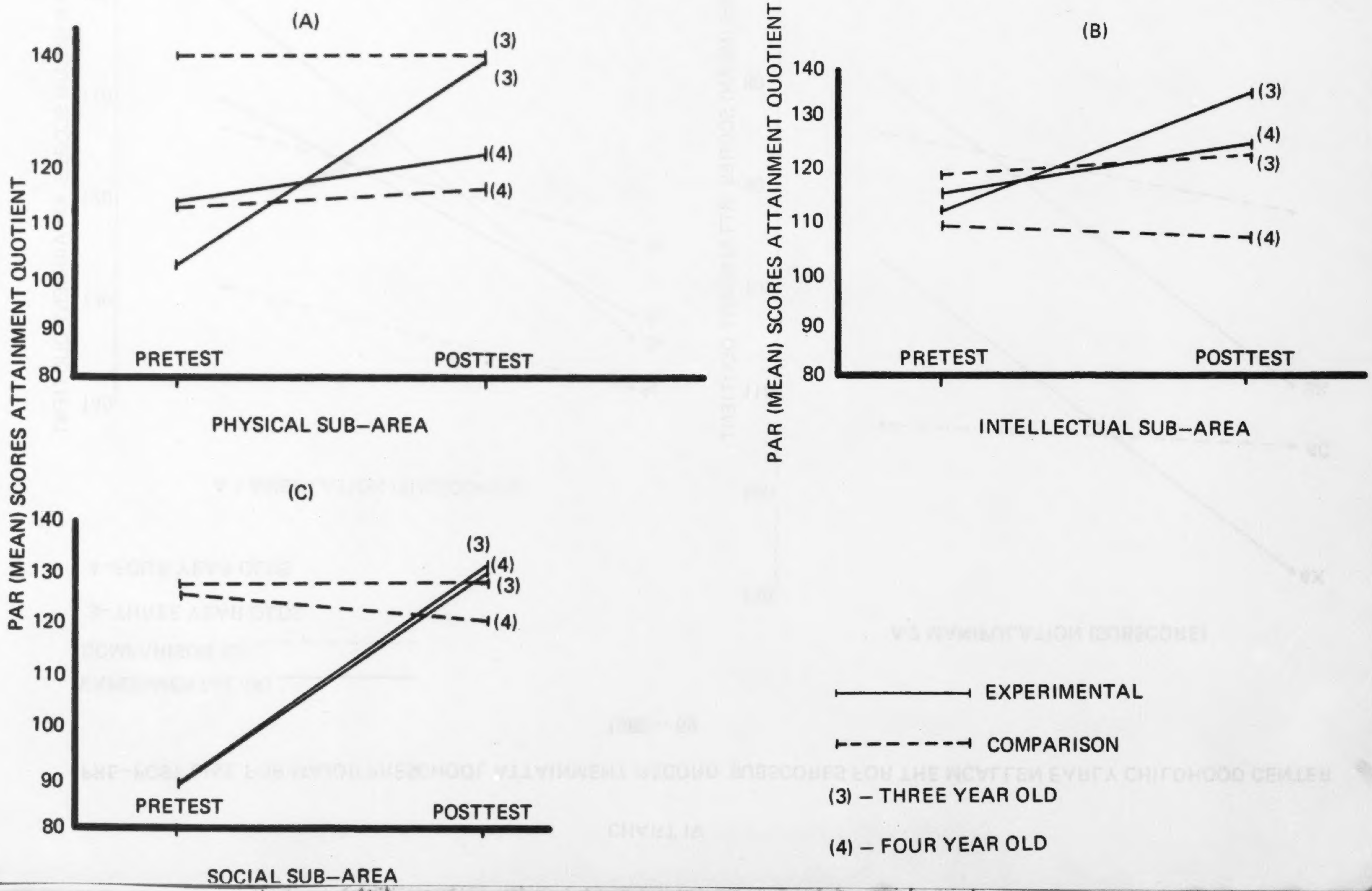


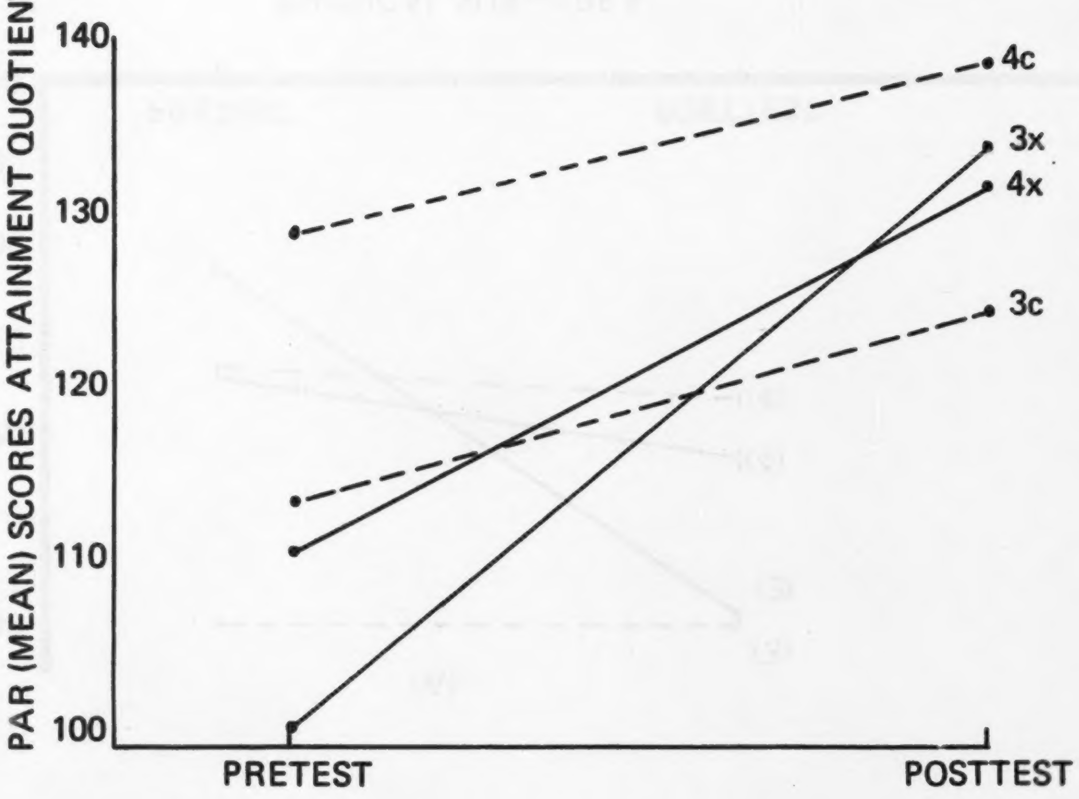
CHART IV

PRE–POST LINE FOR MAJOR PRESCHOOL ATTAINMENT RECORD SUBSCORES FOR THE MCALLEN EARLY CHILDHOOD CENTER

1968 – 69

EXPERIMENTAL (X) ————————
COMPARISON (C) – – – – – – – –
3–THREE YEAR OLDS
4–FOUR YEAR OLDS

A-1 AMBULATION (SUBSCORES)



A-2 MANIPULATION (SUBSCORE)

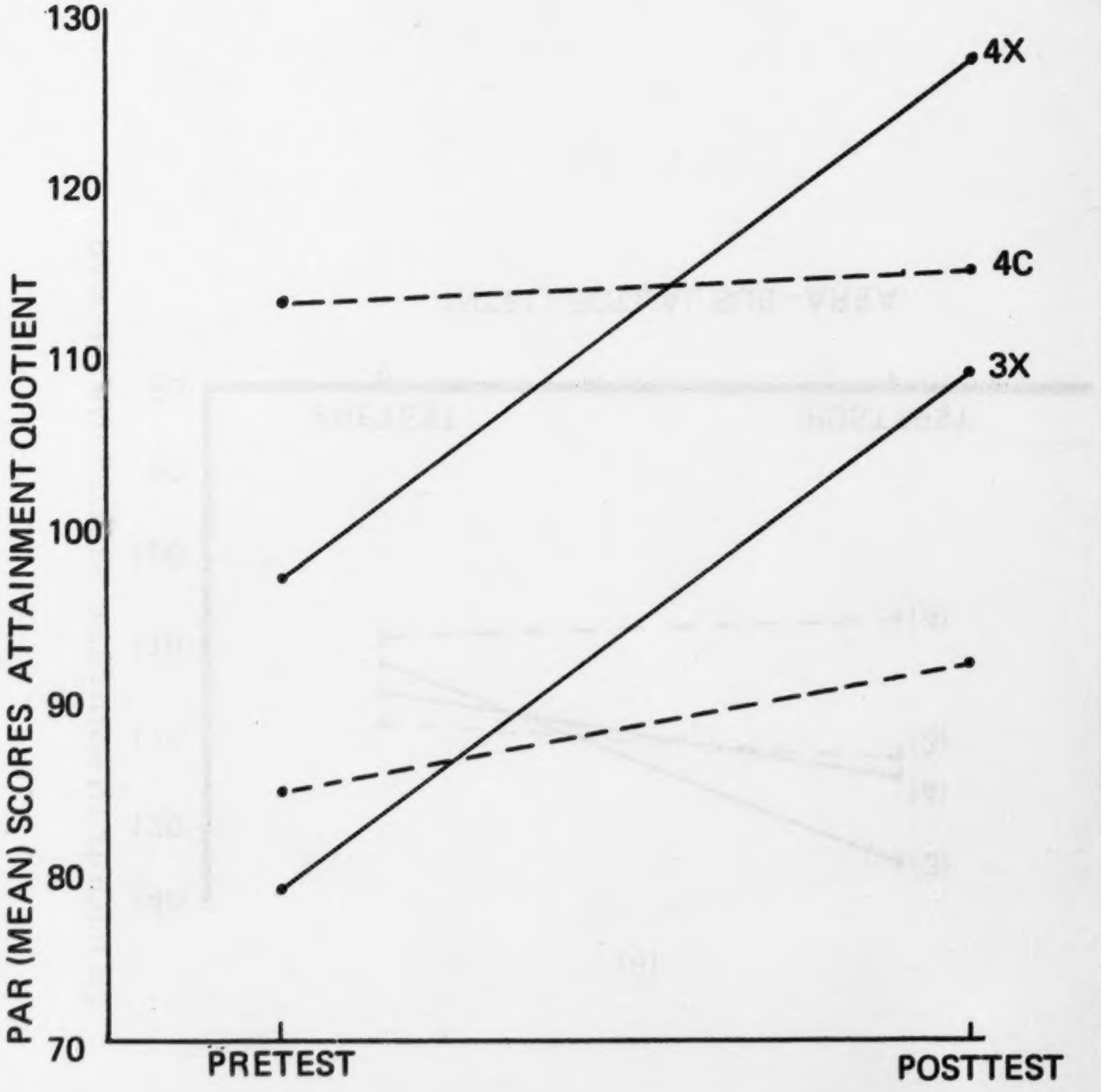
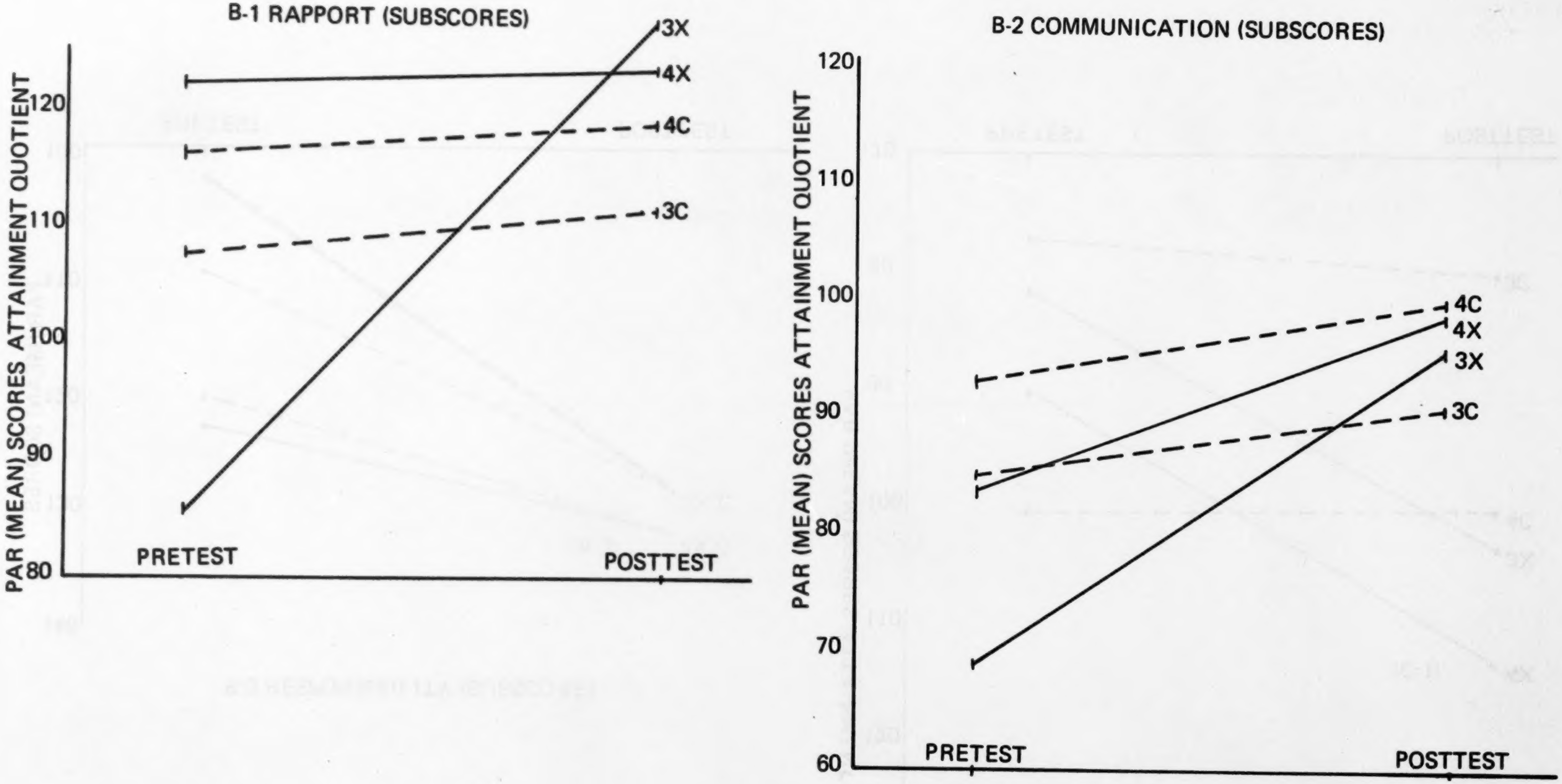


CHART IV (CONTINUED)



B-1 RAPPORT (SUBSCORES)

B-2 COMMUNICATION (SUBSCORES)

CHART IV (CONTINUED)

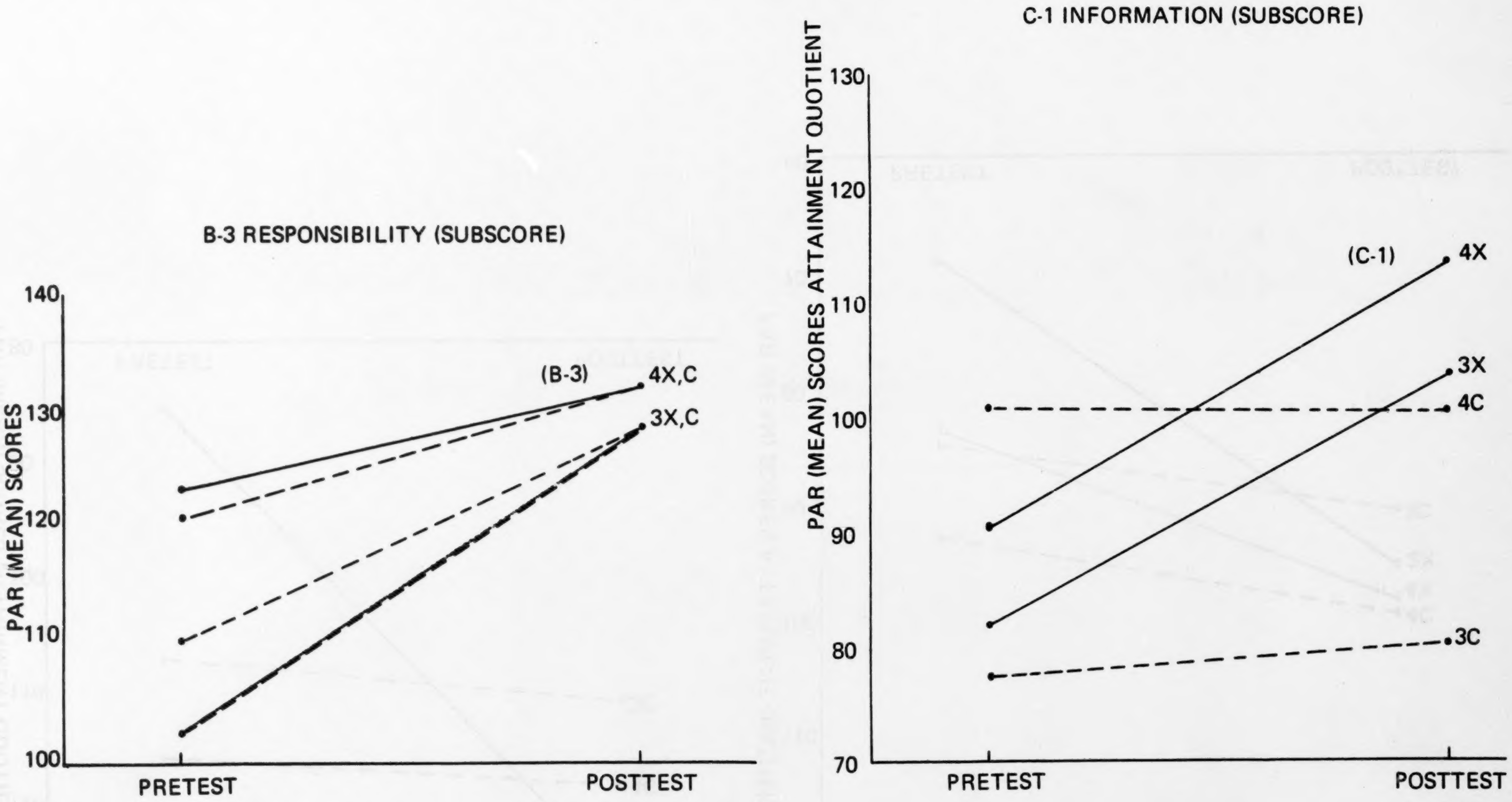
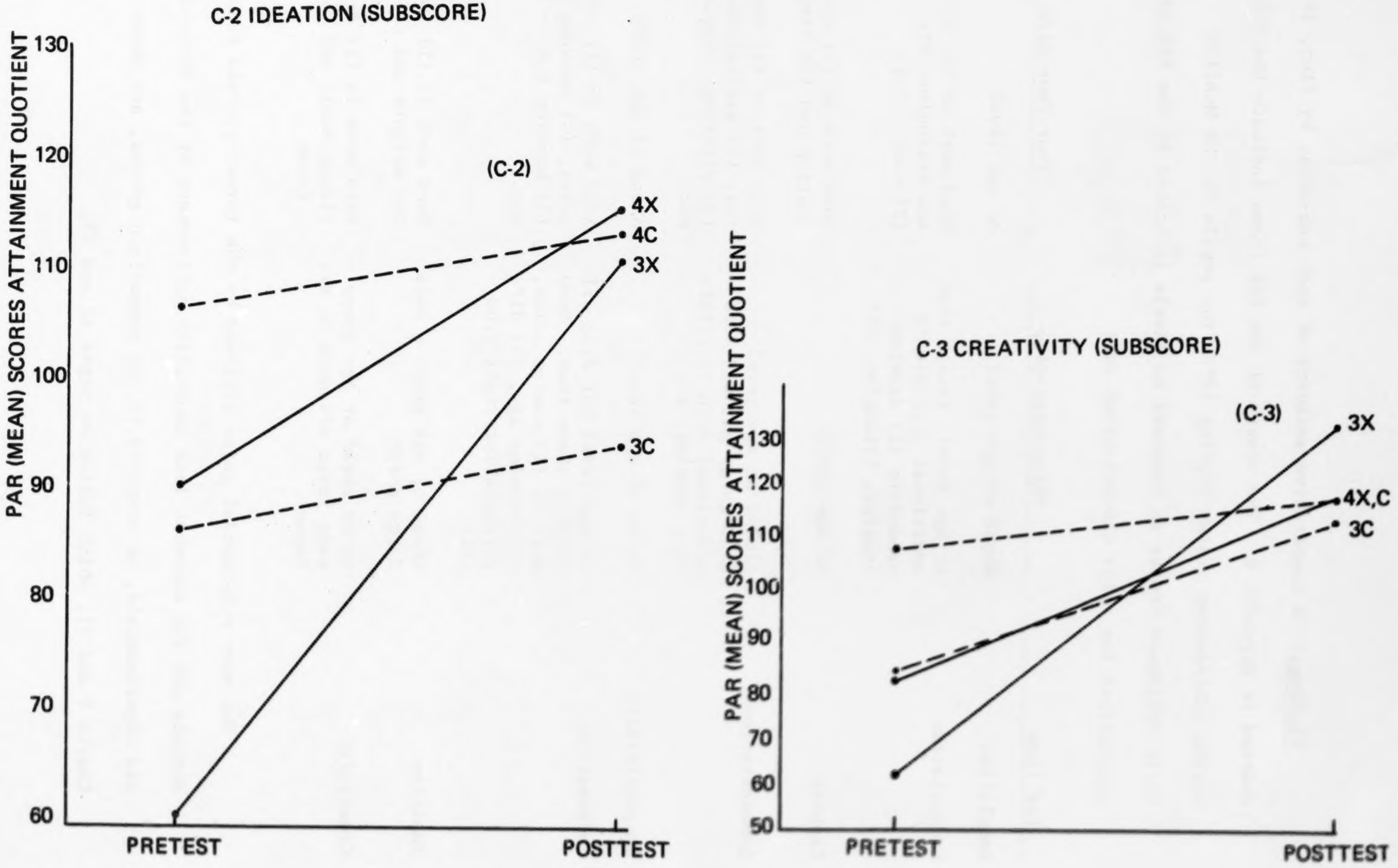


CHART IV (CONTINUED)



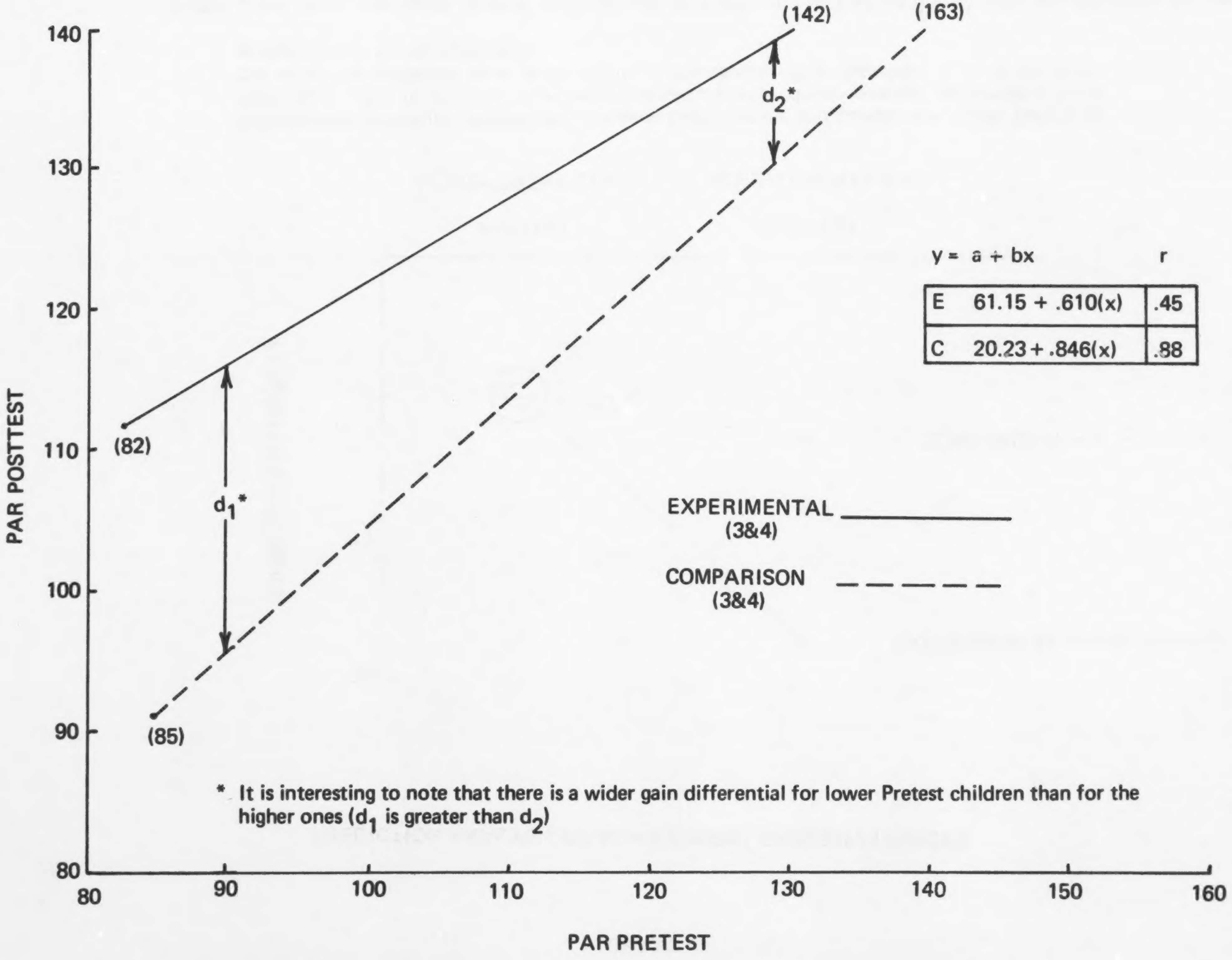
Findings: A comparative analysis of each sub-area, by item, is charted in Appendix B. The charts of the PAR items indicate the following achievement status (Spring 1969) for pupils in the McAllen Early Childhood Center as compared to levels indicated by the PAR as appropriate for their chronological age:

PAR Item	Three-Year-Olds	Four-Year-Olds
Ambulation	Ahead of age level	At age level
Manipulation	At age level, except that additional emphasis is needed in (1) drawing squares, triangles, etc.	Need work in (1) squares and triangles, etc., and (2) with colors
Rapport	At age level	Need work in (1) concentration and (2) singing
Communication	Almost at age level - made large gains. Need additional work in printing, copying, etc.	Need work in (1) describing, (2) recitation, and (3) printing, copying, etc.
Responsibility	Ahead of age level	Ahead of age level
Information	At age level but drop off quickly above that. Need work in (1) naming coins, (2) knowing age, (3) differentiating right from left	Need work in (1) naming coins, (2) knowing age, (3) knowing A.M. - P.M., etc.
Ideation	Ahead of age group - made large gains	Need work in (1) comparing weights and (2) colors
Creativity	At or ahead of age group - made large advances in art forms	Need work in (1) dramatizing music and (2) art forms

The very substantial gains achieved by the three-year-old experimentals and the somewhat less impressive achievement of the four-year-old experimentals, as compared to the comparison groups, are shown in Charts V and VI, which follow on pages 41 and 42.

CHART V

PAR PRETEST vs. POSTTEST   Three-and-Four-Year-Olds Experimental and Comparison

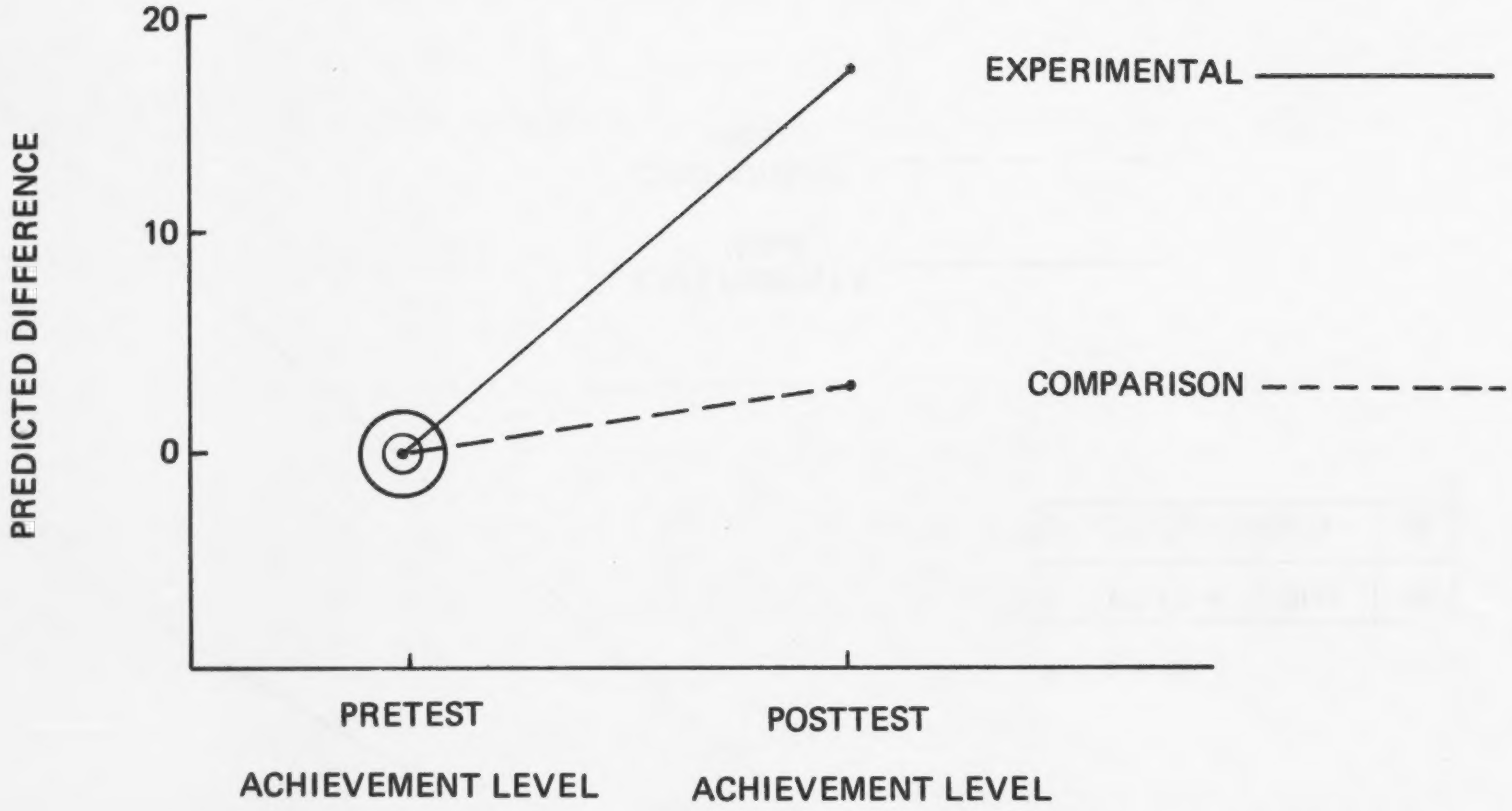


	y = a + bx	r
E	61.15 + .610(x)	.45
C	20.23 + .846(x)	.88

* It is interesting to note that there is a wider gain differential for lower Pretest children than for the higher ones (d_1 is greater than d_2)

CHART VI

PREDICTION ANALYSIS OF ACHIEVEMENT GAIN DIFFERENCES



Achievement Difference Relationship between Experimental and Comparison Pupils Taking the PAR. Each point in the chart represents a departure of predicted posttest performance from the combined pretested level of all pupils in the sample. (See Appendix E, p. 3 for fuller explanation of the analysis used.)

In the above chart, the grand mean of both groups of pupils on the PAR at pretest time was chosen to be typical. This is expressed by the concentric circles which indicate identity of the two groups or a zero achievement difference which is the vertical axis. Improvement may be measured by the difference between pretest achievment level and final posttest achievement level. In this case, the comparison group bettered their score by 3 points on the PAR while the experimental group bettered theirs by 16.5 points. (See Appendix E, p. 3 for fuller explanation of analysis procedure.)

Table 8

Mean Scores on the PAR (Pretest and Posttest - Fall, 1968 and Spring 1969)

Group	Pretest	Posttest	Gain
3-year-old (Comparison)	130.3	136.1	5.8**
3-year-old (Experimental)	103.7	136.9	33.2**
4-year-old (Comparison)	116.4	118.5	2.1
4-year-old (Experimental)	106.9	114.4	7.5**

** significant to the (p=.01) level

Conclusion: (See Charts V and VI for graphic analysis.) The hypothesized gain in developmental level for children in a planned system was achieved and was significantly higher than the gain achieved by the children in the regular day care program. (See Appendix E.)

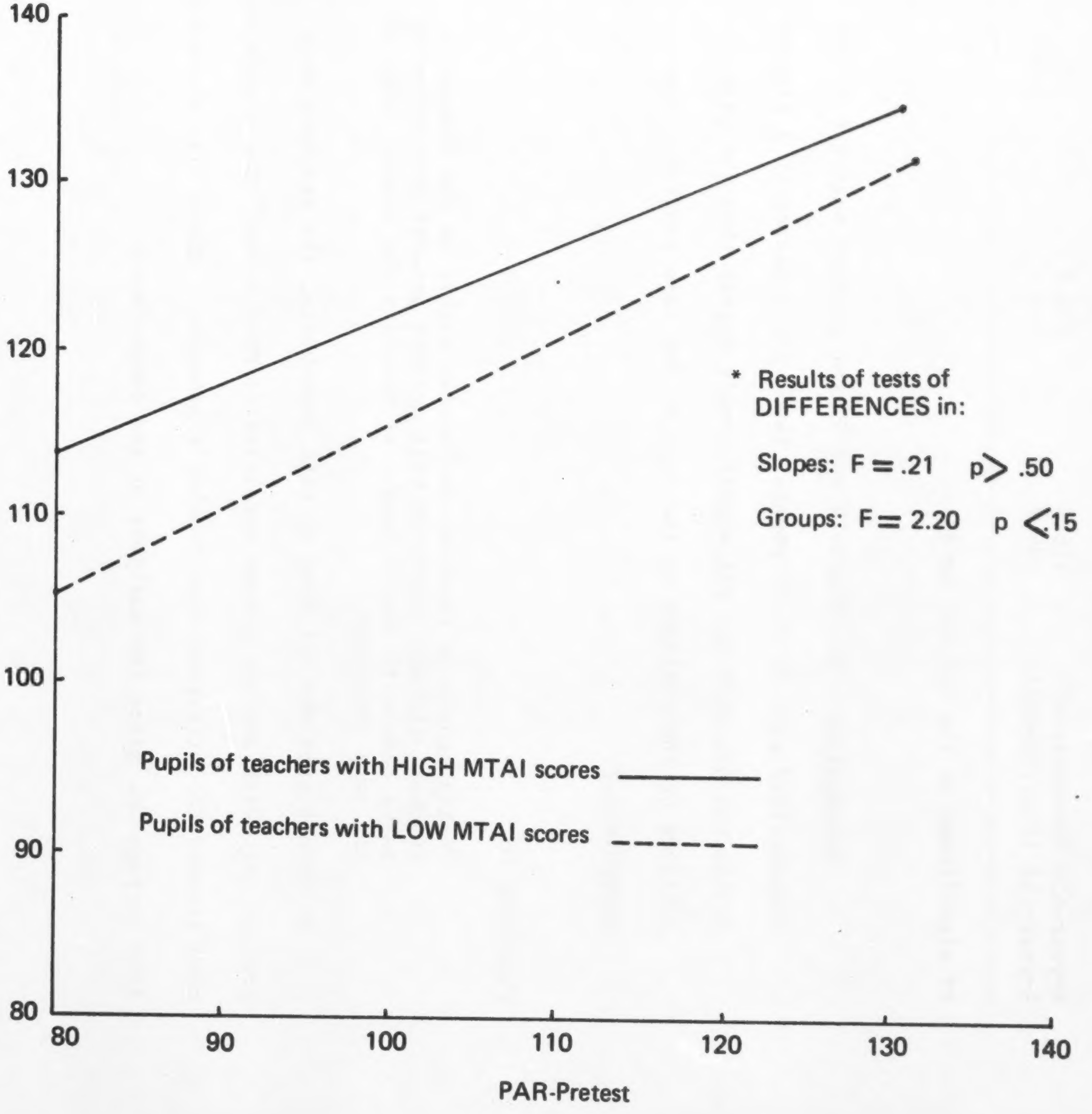
Hypothesis III

> Pupils taught by teachers who scored higher on the Minnesota Teacher Attitude Inventory will achieve greater developmental gains than will pupils taught by teachers who scored lower on the same instrument.

To investigate the validity of this hypothesis, the teachers were grouped into High and Low groups according to MTAI score. The pupils were then grouped to correspond with teacher's grouping. Chart VII, which follows on page 44 gives the analysis of the comparisons.

CHART VII

COMPARISON OF GAINS ACHIEVED BY PUPILS TAUGHT BY TEACHERS GROUPED BY MTAI SCORES



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* Bottenberg, R.A. & Ward, J. H. Applied Multiple Linear Regressions, 6570 Personnel Research Laboratory, Lackland AFB, Texas, 1962.

Findings: The statistical analysis of the data suggests that the slopes of the lines are NOT different although the GAIN by lower achieving students is substantially larger for those students having teachers with HIGH MTAI scores than for those low achievers having teachers with LOW MTAI scores. However, group differences as a whole fail to reach a stringent level of significance. (See Appendix E for further regression curves.)

Conclusion: Pupils taught by teachers who score higher on the MTAI achieve greater developmental gain than do pupils taught by teachers who score low on the MTAI.

Hypothesis IV

> Parents involved in the Parent-Community Involvement Component of the Early Childhood Education System will score higher on an instrument measuring attitudes toward and participation in their children's education than will parents not participating in that program.

To test this hypothesis, the instrument used (Parent Involvement Schedule) was quantified for selected attitudinal and behavioral questions (see Appendix D); and means were established for each of the four parent groups (see p. 32), as follows:

	Group I	Group II	Group III	Group IV
Means	17.79	16.06	15.75	8.96

Findings: It was found that there was a significant difference between measured involvement of Groups I, II, and III and that measured for Group IV. This would tend to support the hypothesis. Further evidence of parental involvement may be found in Appendix D.

It is of some significance to note, however, that Group I which scored highest in the comparison, scored considerably lower on Item 5 (see Table D-1 in Appendix D) which related to teacher involvement (see Question No. 5 in Parent Involvement Schedule in Appendix D.)

Conclusion: Parents who were involved in a planned program of activities did score higher on a quantified schedule ascertaining attitude and behavior in relation to their child's education than did parents who did not participate in a planned program of activities.

Hypothesis V

> Children whose parents are involved in the Parent Involvement Component of the Early Childhood Education System will achieve greater physical, social, and intellectual development than will children of similar backgrounds whose parents are not involved in that particular program.

Findings: To analyze the influence of a parent's involvement on his child's achievement, post-PAR scores of the children in Groups I and II* were matched to their families, grouping by participation groups (see p. 32); and the results were compared:

Group**	Parent Involvement Score	Child's PAR Score*
I	17.79	117.31
II	16.06	116.76

* F - Table will be found in Appendix E.
** These children were the only ones who had taken the PAR.

Conclusion: The comparison indicated that the difference between the two groups compared is not statistically significant, although the trend is in the hypothesized direction. It should be noted that the only two groups which were available for a comparison on the basis of

PAR scores were not mutually exclusive and, therefore, it would be suspected that Group II would be influenced by the effects of the Early Childhood Parent Involvement Program.

OTHER FINDINGS

1. An inquiry was instituted into the relationship between physical well-being of the child and his or her developmental gain on the PAR over the year. The childrens' scores were grouped into the following three sections:

   Group I - Children with no defects noted on health records.

   Group II - Children with defects noted, but defects noted as corrected during the year.

   Group III - Children whose records indicated that existing defects had not been corrected.

   Conclusions:

   There does not seem to be any significant difference between the increases in Achievement Quotient (AQ) of the groups. (See Appendix E for findings.)

2. An inquiry was made into the possible relationship between the child's birth position in his family and the child's achievement. The children's scores were grouped according to the following categorization:

   Group I - First or second born child

   Group II - Middle child (All groups mutually exclusive)

   Group III - Second to last child

   Group IV - Last child

Conclusions:

Children in the middle (Group II) of the family scored significantly lower (p=.05) than children at either end of the scale. The youngest sibling scored significantly higher than any other member tested. (See Appendix E for findings.)

3. Two versions of the Child Performance Checklist were administered (Spanish and English) to the pupils. The scores that the pupils achieved on each version were compared.

Conclusions:

In the case of the three-year-old students, the difference in performance on the two administrations was statistically insignificant. However, in the case of the four-year-old pupils there was a significant difference, favoring scores achieved on the Spanish version.

However, since the Spanish version was given first, the comparison could be biased in favor of the English version. This bias could be caused by test sensitizing and normal maturation. (See Appendix E for findings.)

SUMMARY OF CONCLUSIONS

1. There is a difference in the Pretest educational levels of the Experimental Group and the Comparison Group, with the difference favoring the Comparison Group, or the non-migrant child.
2. The pupils participating in the planned Early Childhood Educational System gain in development more than do children participating in a regular Day Care Center Program.

3. Pupils taught by teachers who score higher on the MTAI gain more than pupils taught by teachers who score low on the MTAI.
4. Parents who were involved in a planned program of activities scored higher on a quantified schedule ascertaining attitude and behavior in relation to their child's education than did parents not participating in that program.
5. Inconclusive results were obtained in an effort to relate parent involvement and the child's developmental level gain.
6. There did not appear to be any significant difference between attainment quotients of children grouped by physical defects status.
7. Children who were in the middle birth sequence of their family achieved lower than did children in any other position in the birth sequence.
8. The three-year-old children showed little difference in scores when given the Child Performance Checklist in Spanish and then in English, whereas, the four-year-olds performed considerably better when the Child Performance Checklist was administered in Spanish.

IMPLICATIONS

Although the evaluation of the 1968-69 program of Early Childhood Education at the McAllen Center and the comparisons with neighboring day care centers could not be as extensive and comprehensive as planned, the evaluation does support several significant conclusions.

PROGRAM EMPHASIS

The regression analyses indicate that the program is apparently better fitted to the needs of the lower achieving (as measured by the PAR-Pretest) three-year-olds than for the higher achieving three-year-olds. It is apparently equally suitable for both the low and high achieving four-year-olds.

The Summary of the PAR item analysis (p. 40) suggests that more emphasis be placed on the four-year-olds in all major areas measured; i.e., Physical, Social and Intellectual.

Although the small sample of teachers taking the MTAI might tend to bias the results due to an atypical teacher and/or atypical groupings, it would appear that the teachers who scored high on the MTAI (which purports to indicate sympathy and understanding) achieve more with the children in terms of the developmental factors measured by the PAR than those teachers who scored low on the MTAI (which indicates a high degree of autocracy). It should be noted that the validity of this implication is restricted to the range of our paramount concern; i.e., $80 < \text{Pretest} < 130$.

PROGRAM INVOLVEMENT

The gain by children in Early Childhood and the high involvement of those parents with children in the ECC only or in schools other than Central Elementary indicates attention to the Parent Involvement Component of the Early Childhood Education System should be continued. In addition, parental reports (see Appendix D) and the disparity in scores between parents in Group T_1 and other parent groups on Item #5 of the Parent Involvement Schedule would indicate that more emphasis should be placed on home visits by the teachers.

ANCILLARY SERVICES

Although "bad health" was a criterion for exclusion from the program, 36 percent of the children were found to have health-related defects. The analysis made does not indicate pupils with defects were significantly handicapped; although this hypothesis is not clearly disproved. The exclusion policy, moreover, may have reduced the opportunity for a more complete evaluation.

The ancillary program might be more valuable if the following modifications were made:

> Liberalize the exclusion policy so that an opportunity might be afforded to test additional handicaps.
>
> Emphasize more heavily parental responsibilities regarding the child's health.

APPENDIX A

EDUCATION AND EXPERIENCE OF EVALUATORS

Twelve persons participated in conducting the evaluation activities and preparing this report of evaluation findings at the McAllen Early Childhood Center for the 1968-69 school year. The following tables indicate the qualifications of education and experience of these persons.

2

ROLE AND GENERAL NATURE OF RESPONSIBILITY	EDUCATION	GENERAL NATURE OF QUALIFYING EXPERIENCE	YEARS
Evaluation Planning, Design, and Indirect and Supervisory Responsibilities			
Director, Research & Evaluation	B.A. Mathematics, Howard Payne, 1957 M. Ed., University of Texas, 1963 Ph.D., Education & Math, University of Texas, 1964	Math Teacher - Principal with Migratory Mexican Americans Research - Teacher, University of Texas	5 4
Process & Product Branch Chief	B.S. Sociology, Colorado State U., 1960 M.S. Sociology, Colorado State U., 1965 Doctoral Work, University of Texas	Teaching Assoc., University of Texas, Sociology Dept. Research, Colorado State U. Research, University of Florida	1 3 1
Data Processing Branch Chief	B.A. Psychology, University of Texas, 1962 M.A. Psychology, U. of Texas, 1965 Graduate studies, Computer Science and Statistical Methods, 1965	Systems Programming Director, Laboratory for Computer-Assisted Instruction, University of Texas Laboratory Research Assoc., Dept. of Psychology, U. of Texas	3 3
Evaluation Coordination Specialist	B.A. Psychology and Mathematics, University of Texas, 1966 M.A. Developmental and Social Psychology, U. of Texas, 1969 Doctoral Work, Developmental Psychology in Educational Psychology, 1969	Research Assist.,Psychology Dept. University of Texas	1
Site Evaluation and Test Administration Services			
Site Evaluator	B.A. Elementary Education, University of Texas, 1959	Teacher, Migratory School, McAllen Teacher, Rose Shaw Elem.,Corpus Christi Teacher, Zavala, Austin	2 2 1
Test Administrator (Leiter) Parttime	B.A. English & Foreign Languages, Sam Houston State University, 1949 M.A., University of Texas, 1952	Private Counseling, Edinburg Counselor Psychometrist, McAllen Teacher in Port Arthur, Huntsville, Brownsville (1 yr. each)	6 7 1 yr. each

ROLE AND GENERAL NATURE OF RESPONSIBILITY	EDUCATION	GENERAL NATURE OF QUALIFYING EXPERIENCE	YEARS
Director, Program Design and Pilot Test Division - overall supervision of planning and support of program	B.S., Industrial Education, Engr. Graphics, Texas A&M University, 1942 M.S. Education, Management, Texas A&M University, 1951 Guidance Supervision, University of Houston, 1952	Assistant Professor, School of Education, Texas A&M Assist. Superintendent for Instruction, Corpus Christi Assoc. Commissioner for Planning, TEA	10 2 1
Director, Texas Migrant Education Development Center - coordination of program planning and implementation	B.A., Education, University of Texas 1950 M.Ed., Education, Our Lady of the Lake College, 1955 Ed.D., University of Texas, 1966	School Principal, Aids Director College Professor, Education Dept. Chairman (St. Mary's U.)	8 5
Parent-Community-School Involvement Specialist - guidance for particular program development	B.A., Psychology, Sociology, Texas A&I, 1963	Group Worker, Community Settlement House Social Worker, Nueces County Welfare Dept. Migrant Education Specialist, Texas OEO	4 5 1
Director, Migrant Education Demonstration Center - operation of facility and support program	B.A., Accounting, University of Texas, 1950 M.Ed., Education, University of Texas, 1957	Junior High School Teacher Elementary School Teacher Principal, Migrant pilot program in McAllen	1 5 Present
Psychometrist, Bilingual Testing	B.A., Spanish, University of Texas, 1964 M.S., Linguistics, University of Texas, 1968 Doctoral studies in Foreign Language Education, 1968-present	Instructor in the Peace Corps Instructor at Our Lady of the Lake College, San Antonio, Texas Teaching Assistant at University of Texas	3 1 1

ROLE AND GENERAL NATURE OF RESPONSIBILITY	EDUCATION	GENERAL NATURE OF QUALIFYING EXPERIENCE	YEARS
Educational Writer	B.S., Southwest State (Okla.) College, 1947	Chief, Job Production, Pacific Press, Inc. (Los Angeles)	2
	M.S., University of Southern California, 1952	Instructor in Journalism, West Texas State University, Canyon, Texas	3
	Graduate work on Ph.D. at University of Texas at Austin - present	Director of Publications, Tascosa High School, Amarillo, Texas	3

APPENDIX B

DETAILED COMPARISON OF EXPERIMENTAL AND COMPARISON PUPILS BY INDIVIDUAL CATEGORY ITEMS ON THE PRESCHOOL ATTAINMENT RECORD (PAR) MEAN CHANGE SCORE PRE– TO POSTTEST

The series of charts which follows presents a comparison between performances of experimental pupils at the McAllen Early Childhood Center and pupils at the Day Care Centers, separately for three-year-old and four-year-old pupils, for each of the sub-items which make up the basic function being measured on the Preschool Attainment Record (PAR). For example, Chart B-1-A (for the three-year-olds) and Chart B-2-I (for the four-year-olds) show each of the sub-items making up the function or category of "Ambulation:" "sits," "stands," "walks," "runs," etc. For each of these items there is a line representing the beginning position (as a mean average) for the experimental pupils, Line X. The solid line representing the beginning position for the comparison pupils is Line C. Where there was a higher, or changed, score on the posttest than on the pretest (beginning performance level), a dashed line has been used to indicate the amount of change. The end of the dashed line indicates the posttest score for the sub-item.

Chart B-1-A indicates that both groups on the pretest scored at the highest point (1.00) for "sits," "stands," "walks," and "runs." Therefore, there would be no change to be portrayed by a dashed line on the posttest. However, for "hops," "circles," "skips," "follows," "dances," and other items there are notable changes in the posttest score as compared to the pretest score. In general, the amount of change is substantially greater on these sub-items for the Line X (experimentals) than for the Line C (comparison pupils).

A review of the following charts indicates that, in general, the experimental pupils show substantially greater improvement than do the comparison pupils, with some exceptions. When there is a difference in the pretest score, most commonly the experimental pupils score lower on the pretest than do the comparison pupils. And on the posttest usually the experimentals score higher.

APPENDIX B

Detailed Comparison of Experimental and Comparison Pupils by Individual Category Items on the Preschool Attainment Record (PAR), Mean Change Score Pre- to Posttest.

1. Comparison of Three-year-old Pupils

    A. Ambulation
    B. Manipulation
    C. Rapport
    D. Communication
    E. Responsibility
    F. Information
    G. Ideation
    H. Creativity

2. Comparison of Four-year-old Pupils

    I. Ambulation
    J. Manipulation
    K. Rapport
    L. Communication
    M. Responsibility
    N. Information
    O. Ideation
    P. Creativity

CHART B-1-A

PRESCHOOL ATTAINMENT RECORD (AMBULATION)
MEAN SCORE FOR STUDENTS PRE & POST COMPLETING ITEM — 3 yr. olds

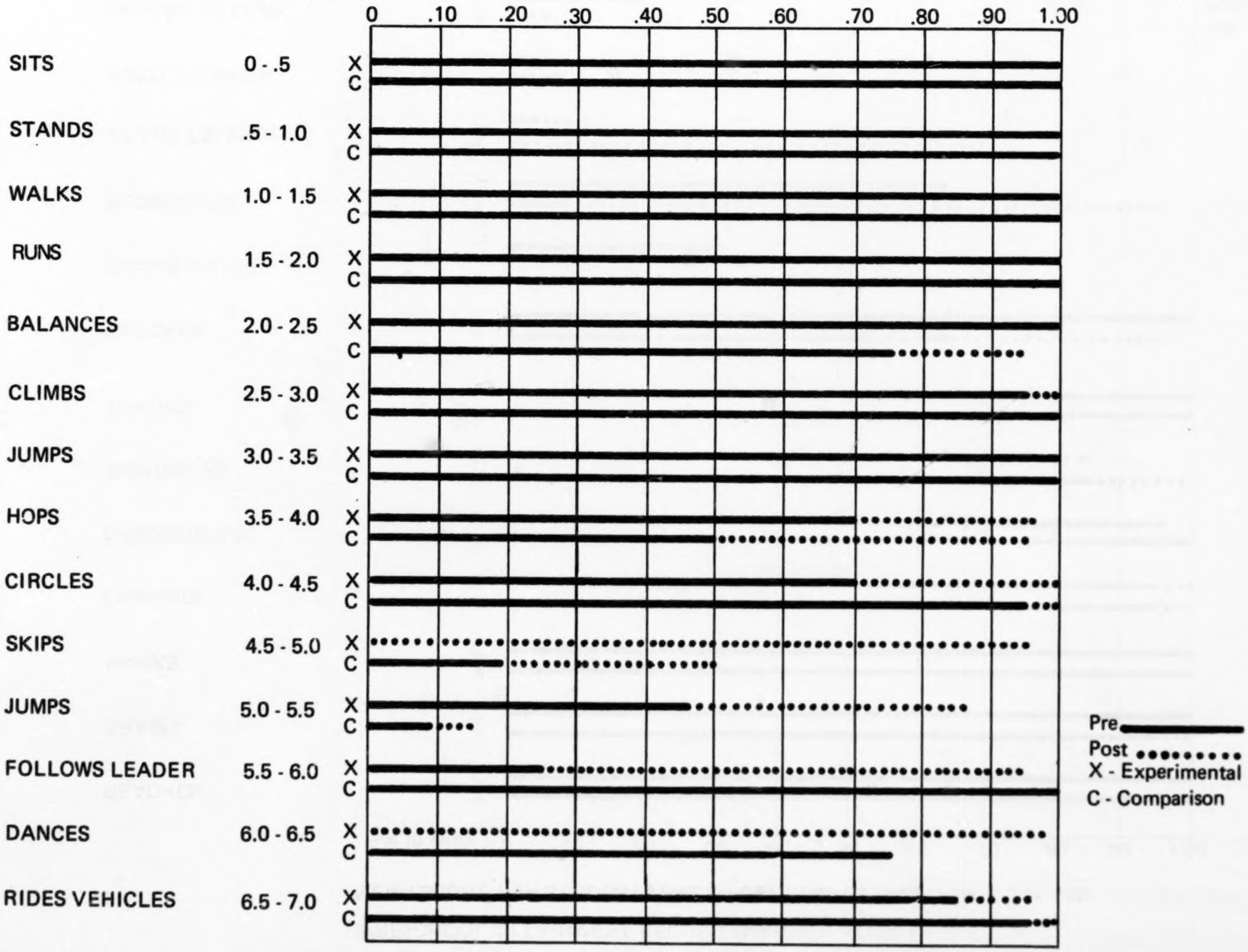


CHART B-1-B

PRESCHOOL ATTAINMENT RECORD (MANIPULATION)

MEAN SCORE FOR STUDENTS PRE & POST COMPLETING ITEM – 3 yr. olds

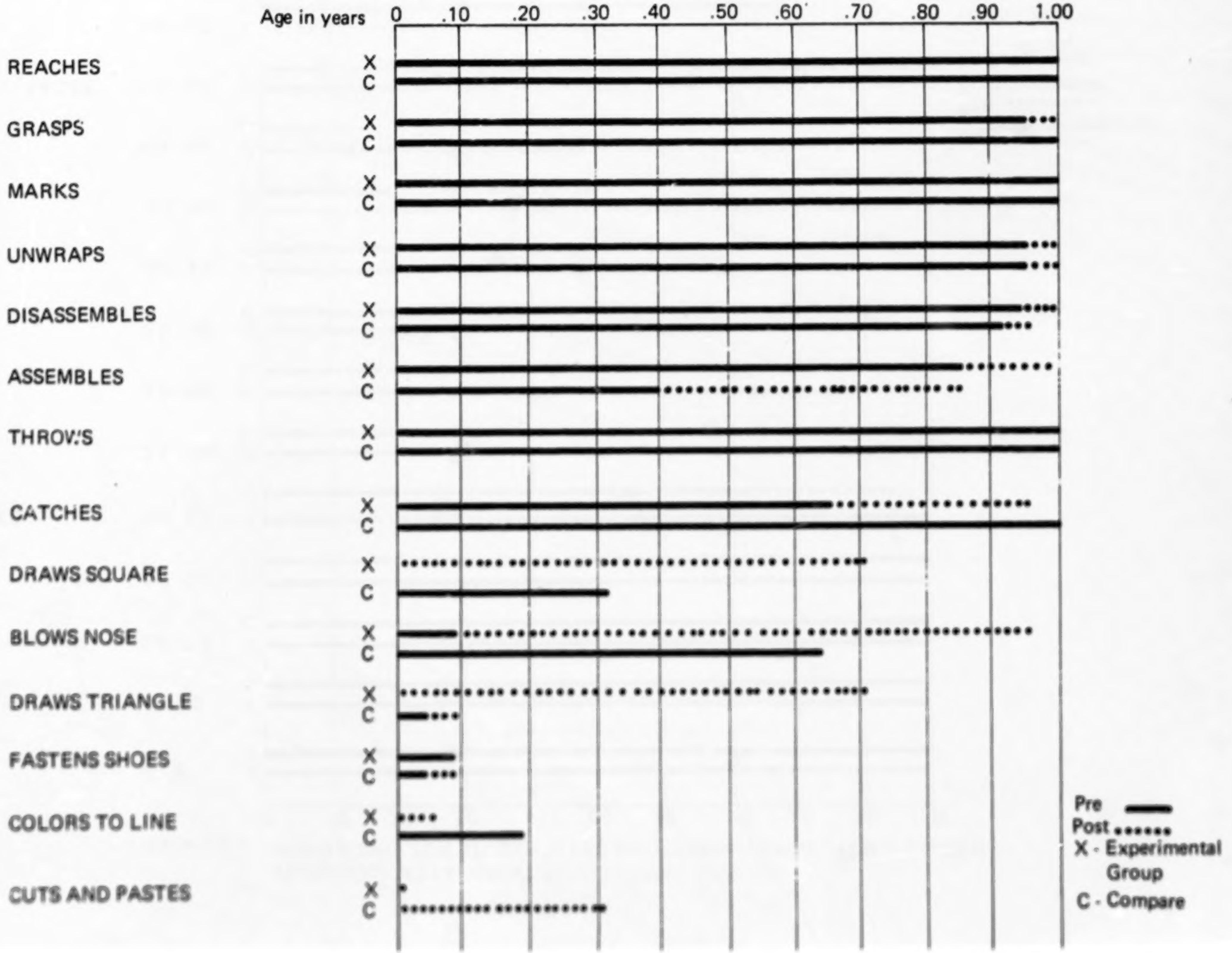


CHART B-1-C
PRESCHOOL ATTAINMENT RECORD (RAPPORT)

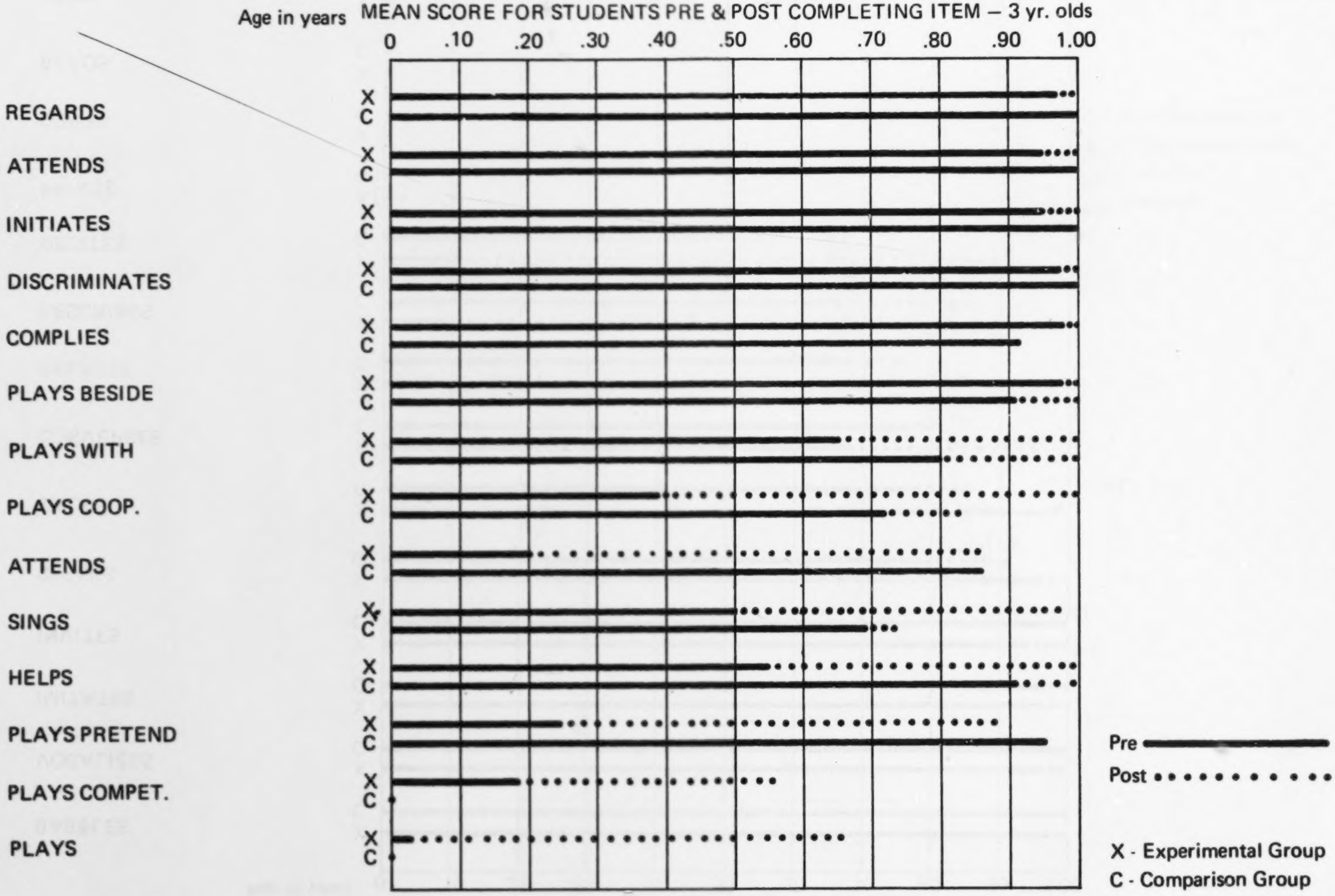


CHART B-1-D

PRESCHOOL ATTAINMENT RECORD (COMMUNICATION)
MEAN SCORE FOR STUDENTS PRE & POST COMPLETING ITEM – 3 yr. olds

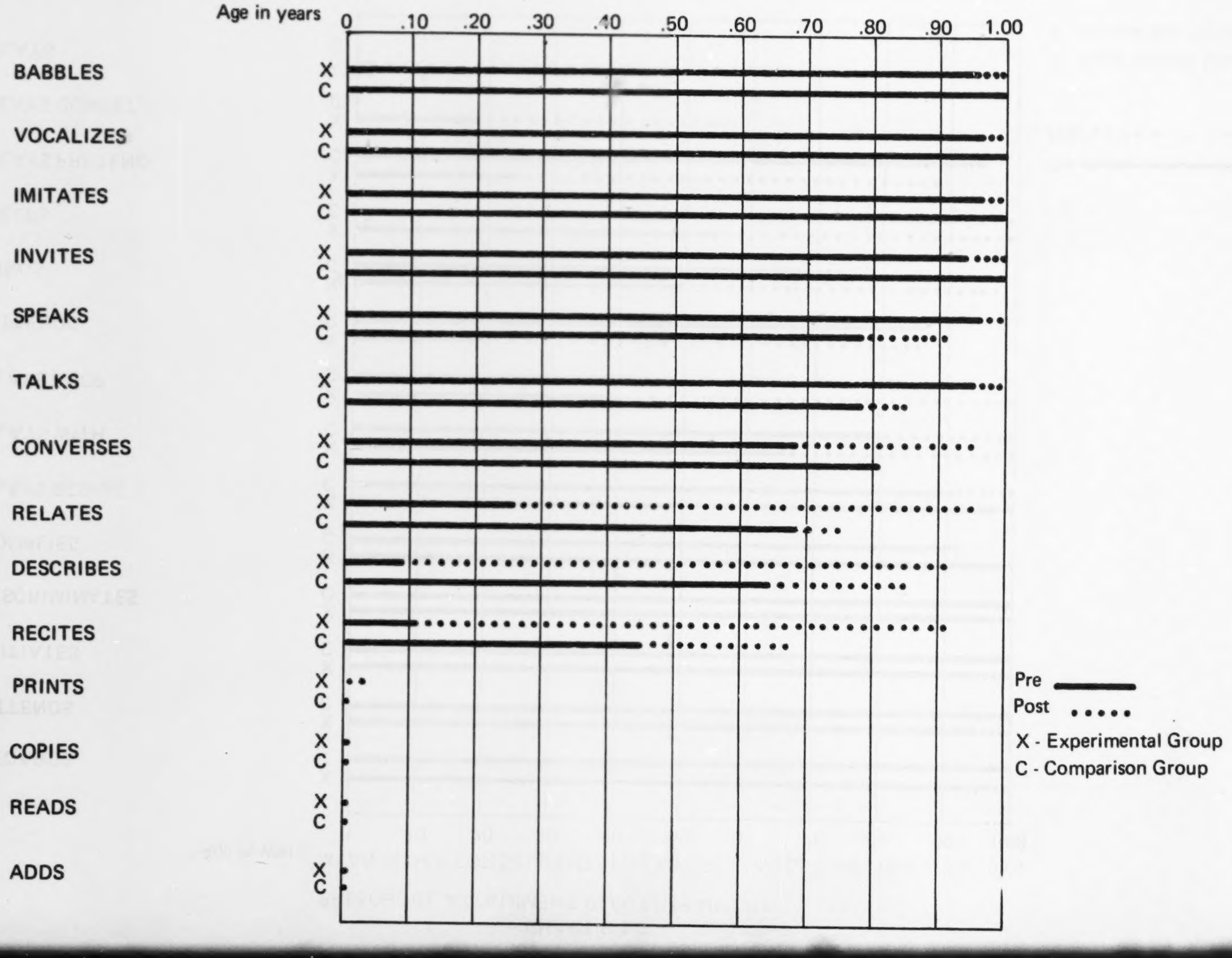


CHART B-1-E
PRESCHOOL ATTAINMENT RECORD (RESPONSIBILITY)
MEAN SCORE FOR STUDENTS PRE & POST COMPLETING ITEM – 3 yr. olds

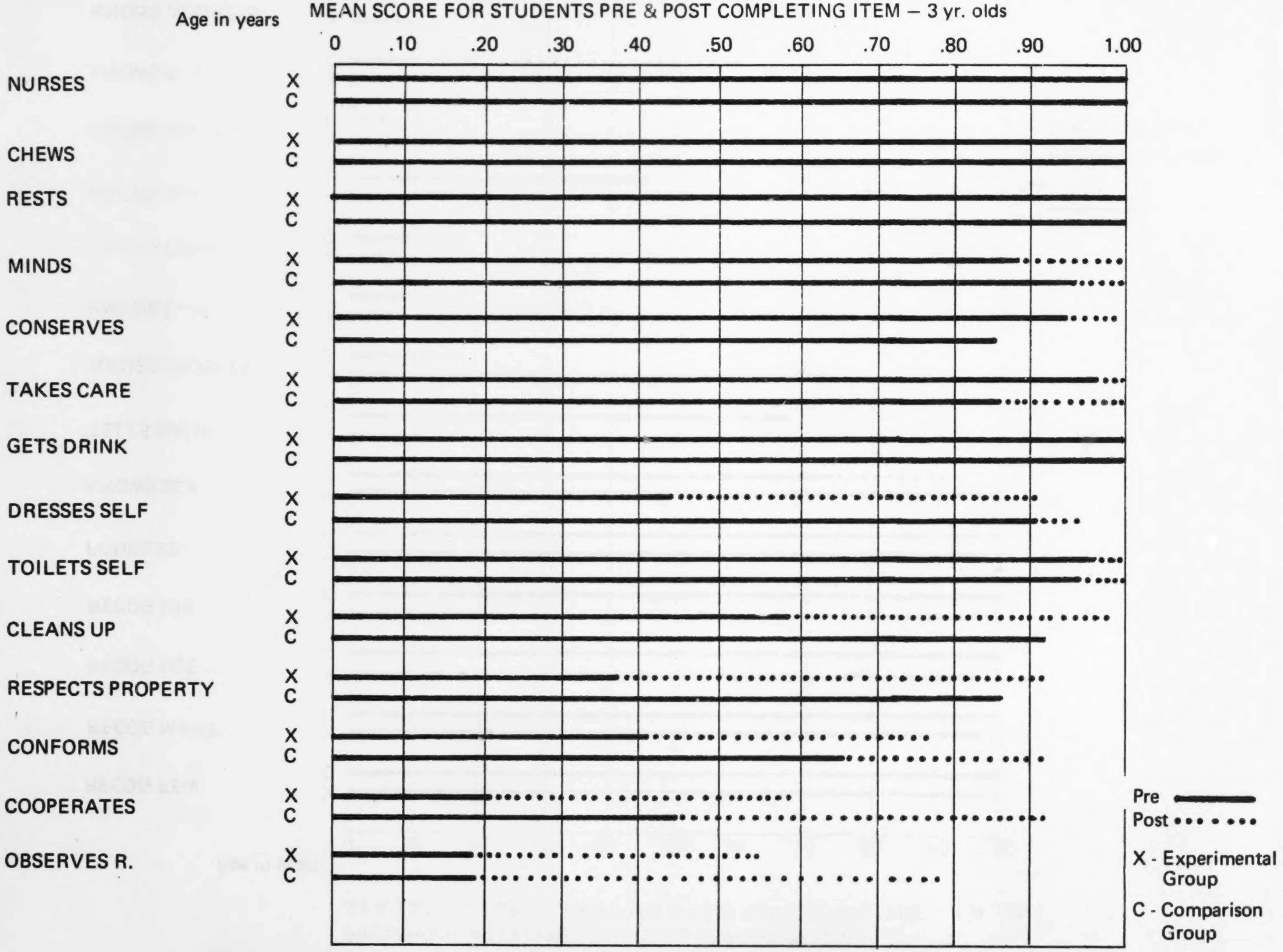


CHART B-1-F
PRESCHOOL ATTAINMENT RECORD (INFORMATION)
MEAN SCORE FOR STUDENT PRE & POST COMPLETING ITME – 3 yr. olds

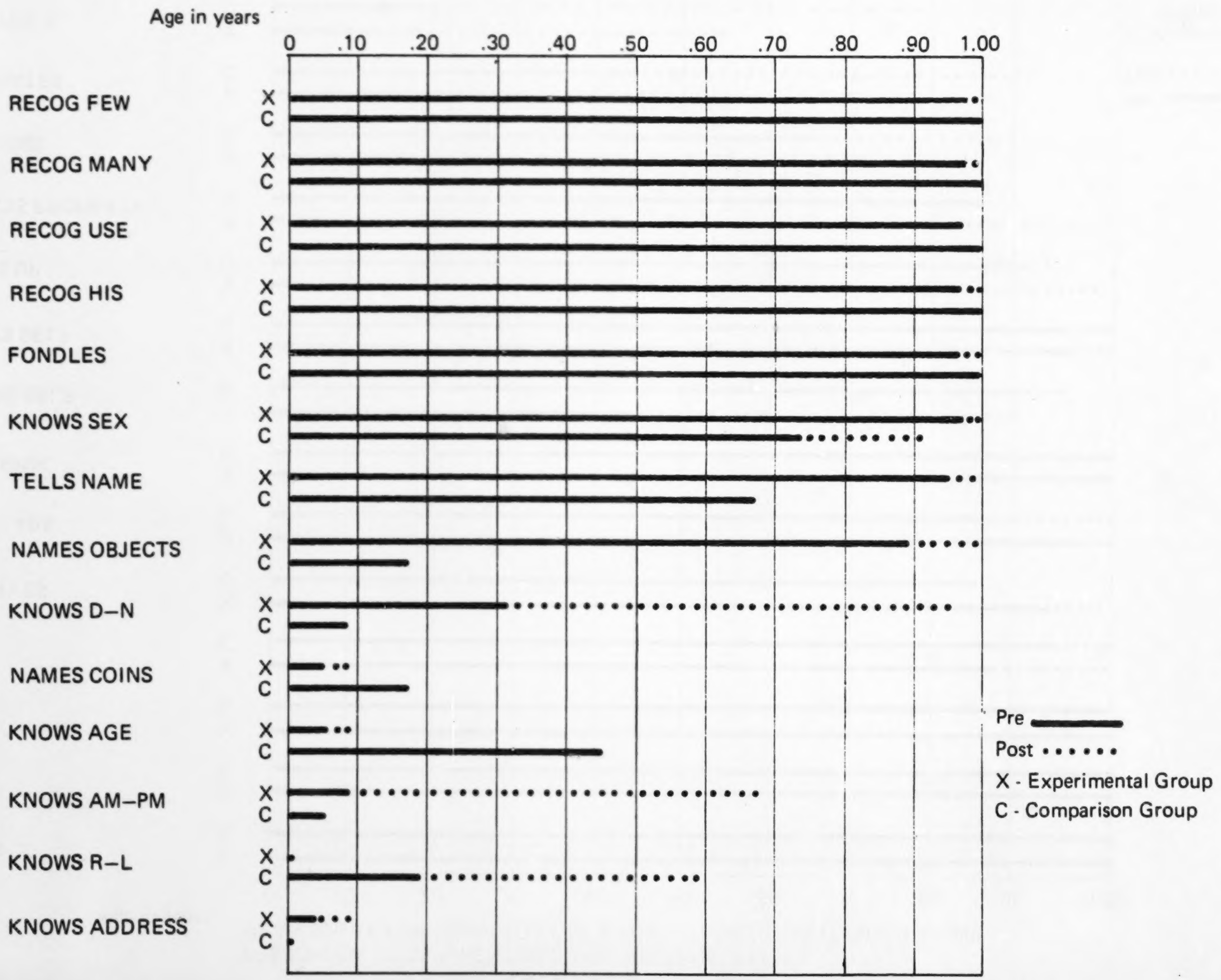


CHART B-1-G
PRESCHOOL ATTAINMENT RECORD (IDEATION)
MEAN SOCRE FOR STUDENTS PRE & POST COMPLETING ITEM – 3 yr. olds

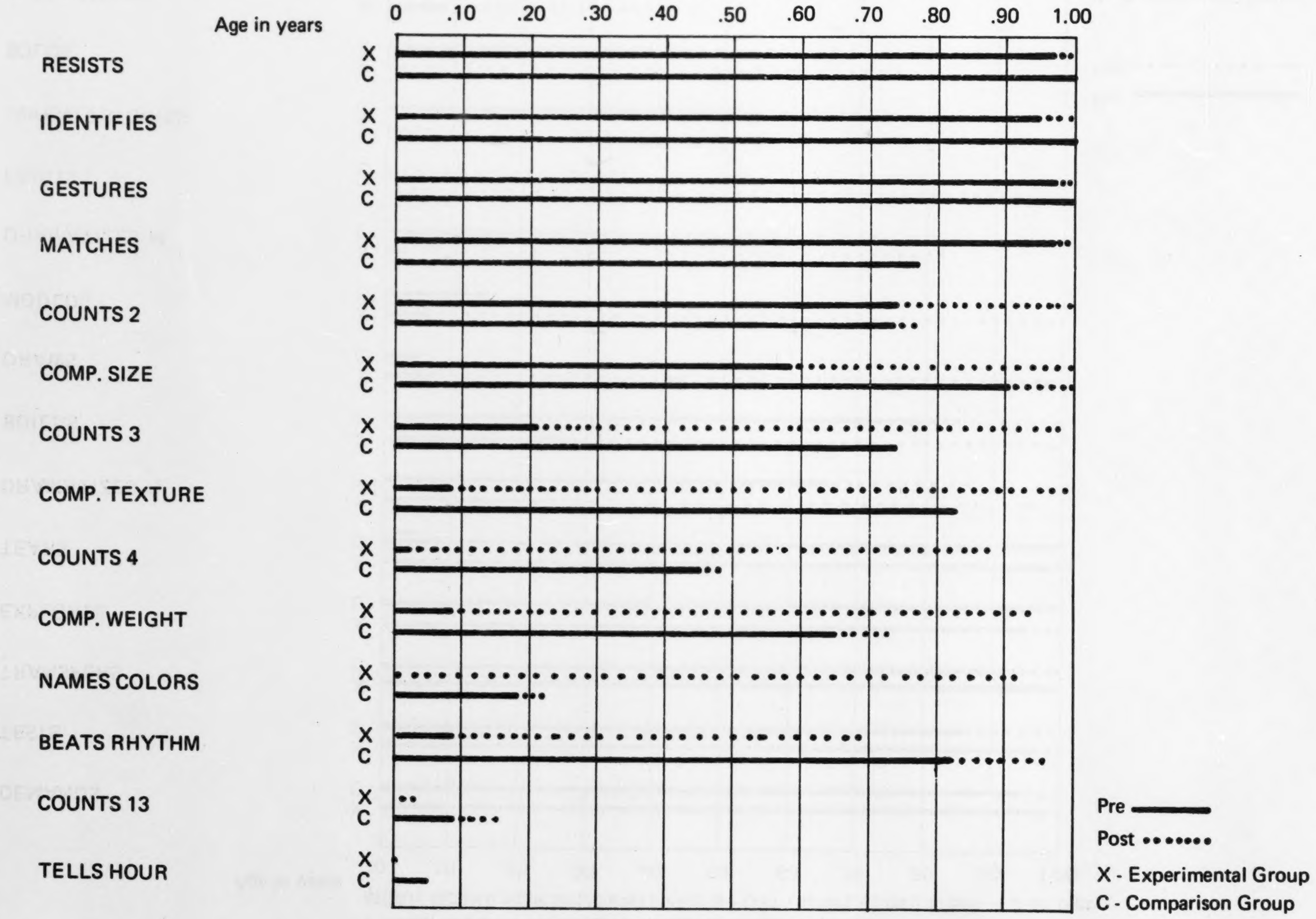


CHART B-1-H
PRESCHOOL ATTAINMENT RECORD (CREATIVITY)
MEAN SCORE FOR STUDENTS PRE & POST COMPLETING ITEM — 3 yr. olds

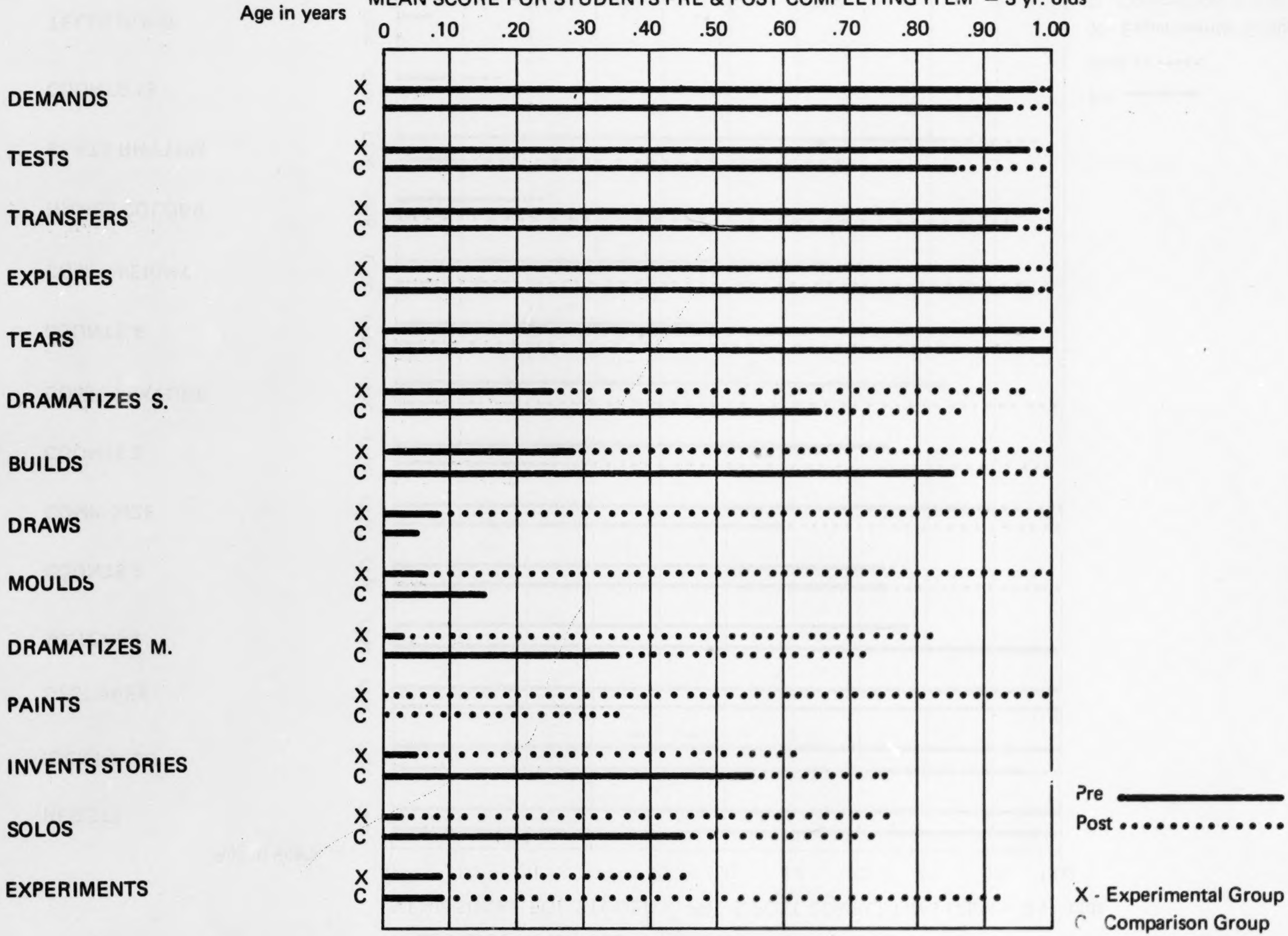


CHART B-2-I

PRESCHOOL ATTAINMENT RECORD (AMBULATION)

MEAN SCORE FOR STUDENTS PRE & POST COMPLETING ITEM — 4 yr. olds

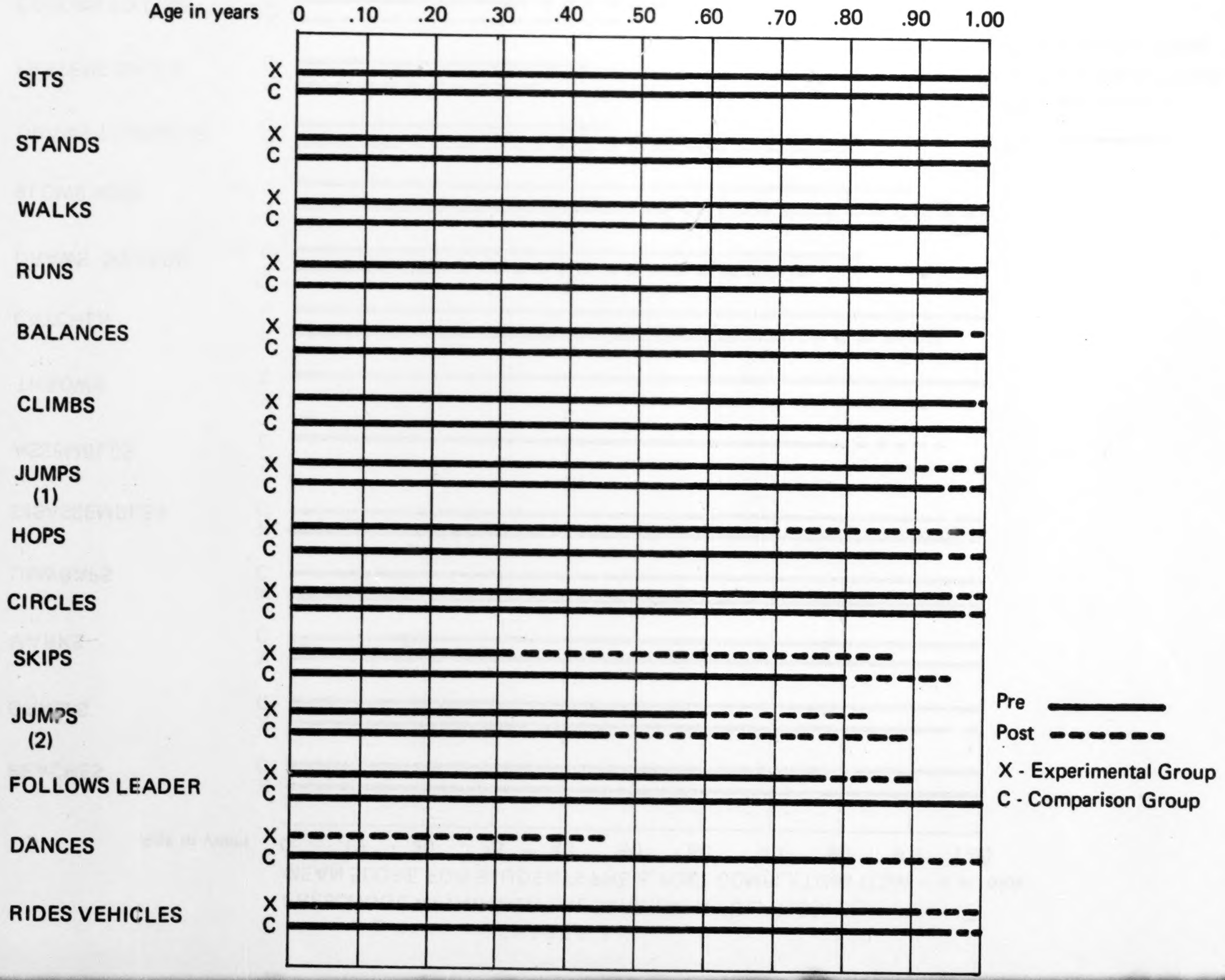


CHART B-2-J

PRESCHOOL ATTAINMENT RECORD (MANIPULATION)

MEAN SCORE FOR STUDENTS PRE & POST COMPLETING ITEM – 4 yr. olds

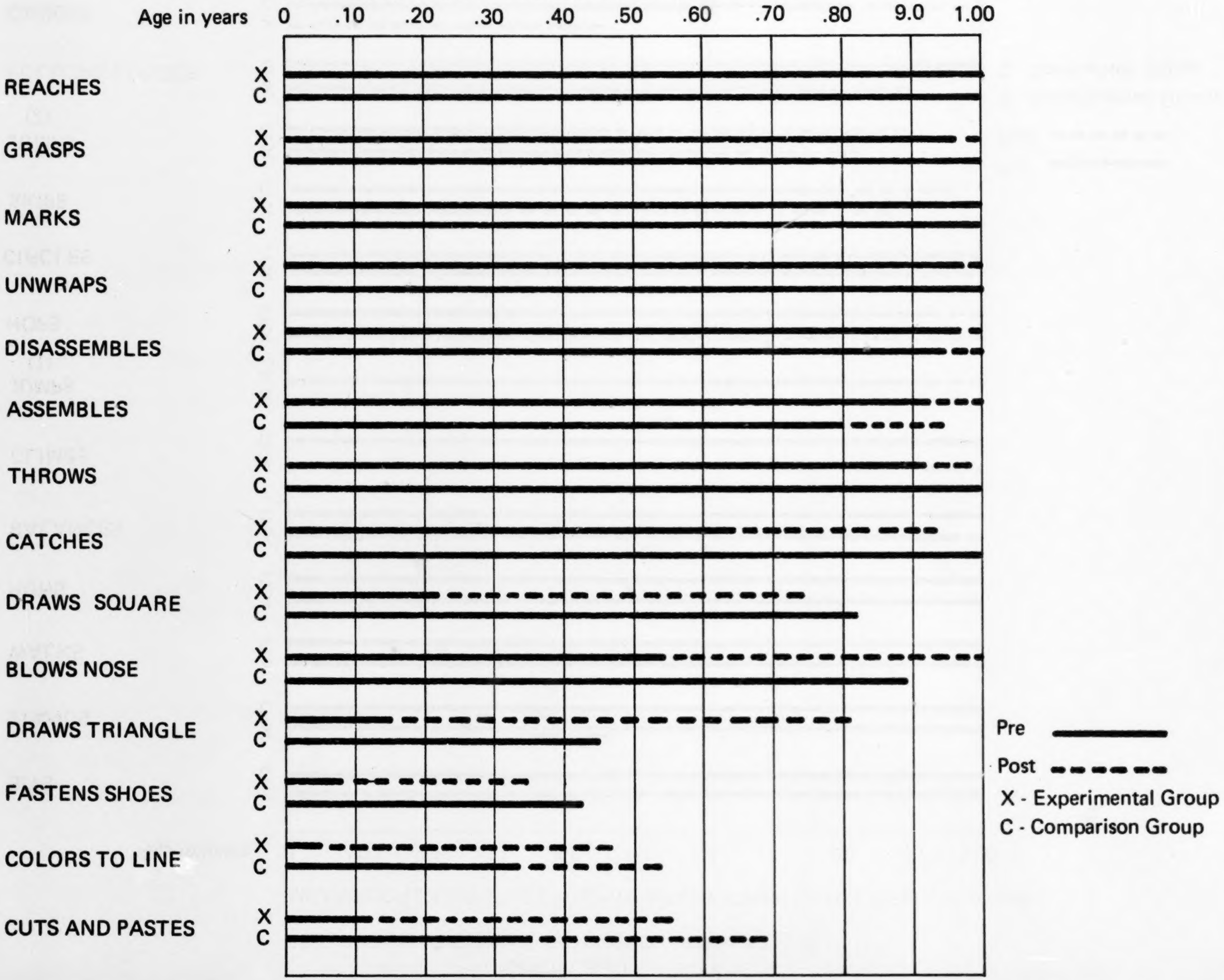


CHART B-2-K
PRESCHOOL ATTAINMENT RECORD (RAPPORT)

MEAN SCORE FOR STUDENTS PRE & POST COMPLETING ITEM – 4 yr. olds

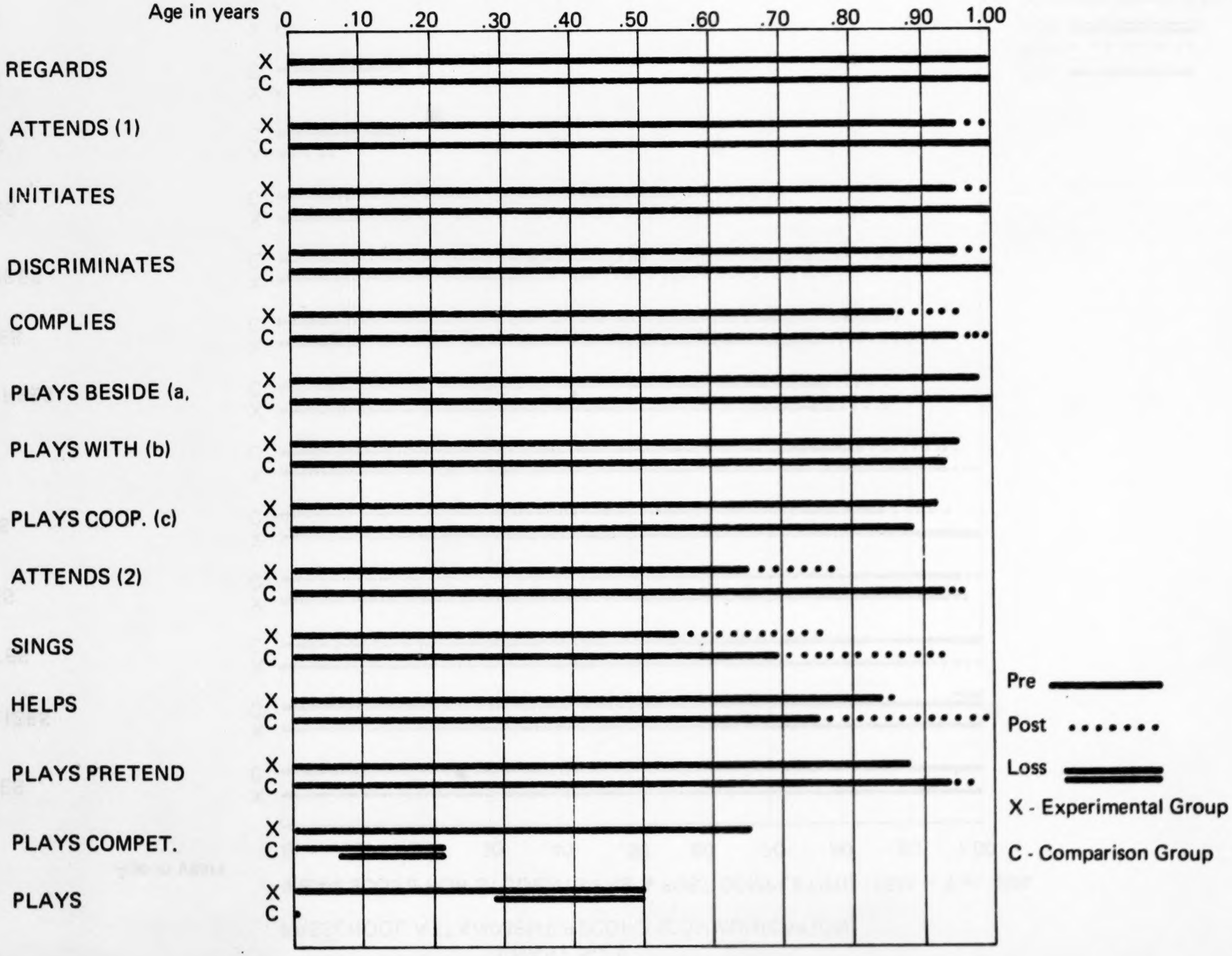


CHART B-2-L

PRESCHOOL ATTAINMENT RECORD (COMMUNICATION)

MEAN SCORE FOR STUDENTS PRE & POST COMPLETING ITEM – 4 yr. olds.

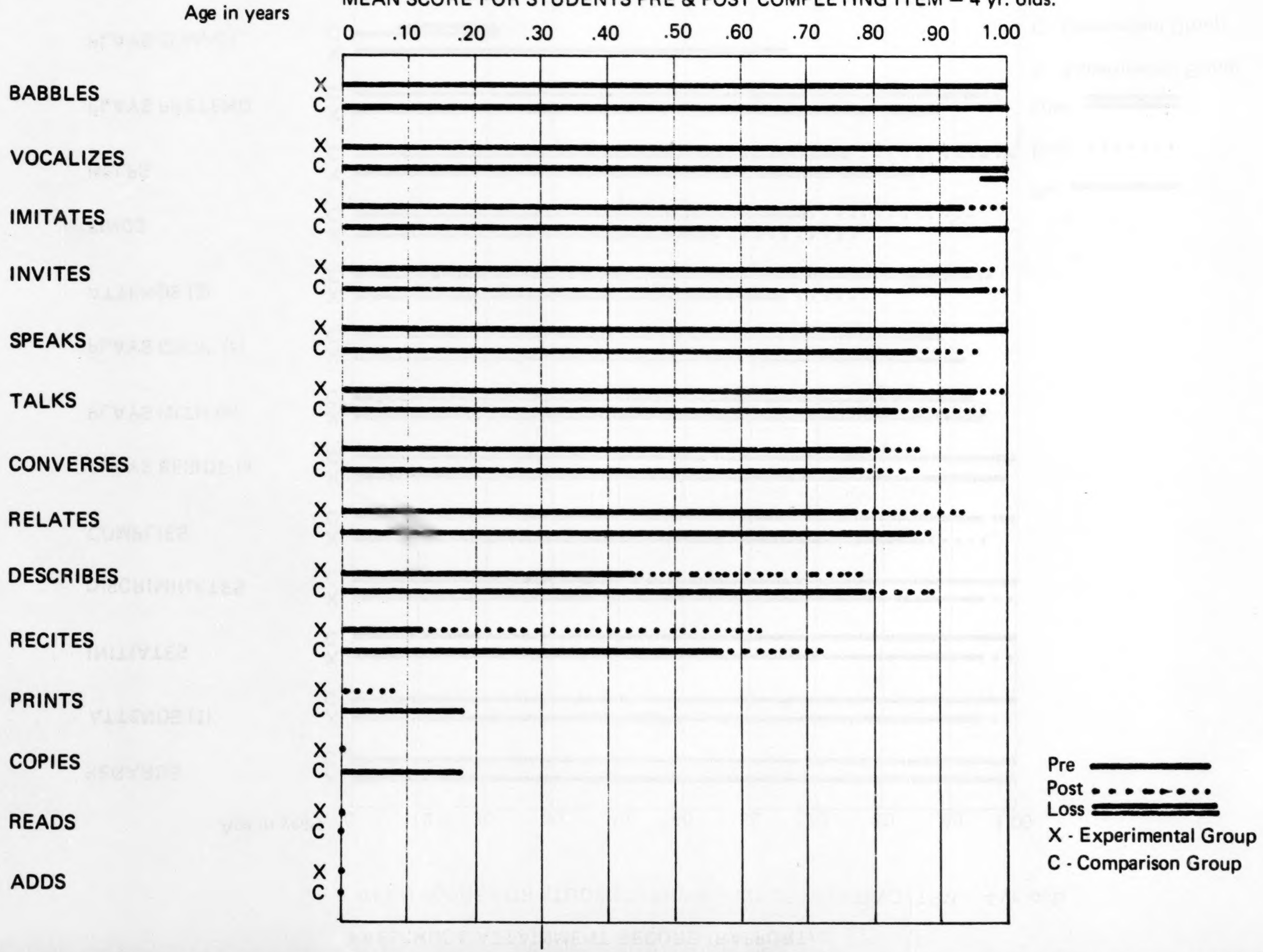


CHART B-2-M
PRESCHOOL ATTAINMENT RECORD (RESPONSIBILITY)

MEAN SCORE FOR STUDENTS PRE & POST COMPLETING ITEM — 4 yr. olds

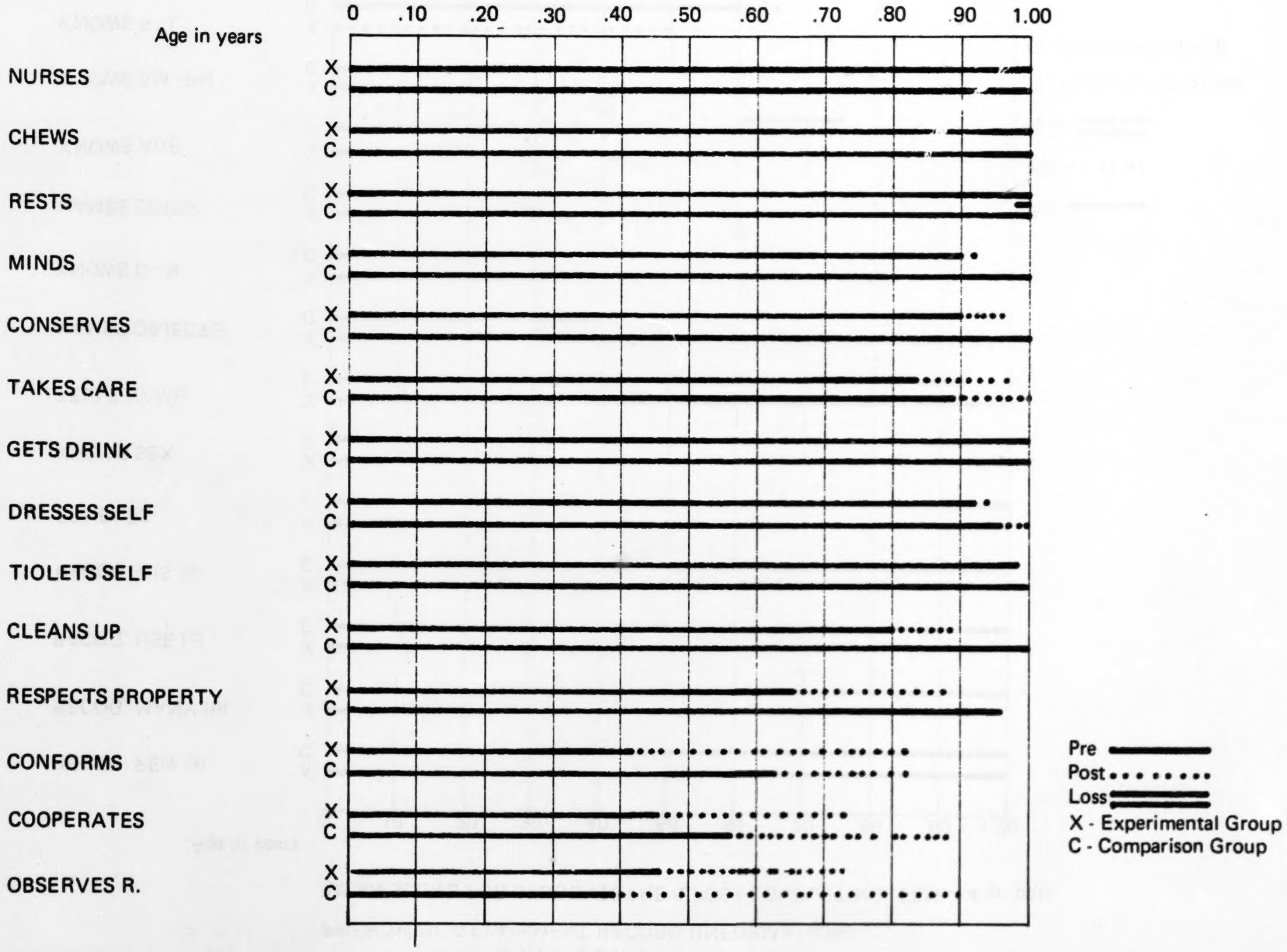


CHART B-2-N

PRESCHOOL ATTAINMENT RECORD (INFORMATION)

MEAN SCORE FOR STUDENTS PRE & POST COMPLETING ITEM – 4 yr. olds

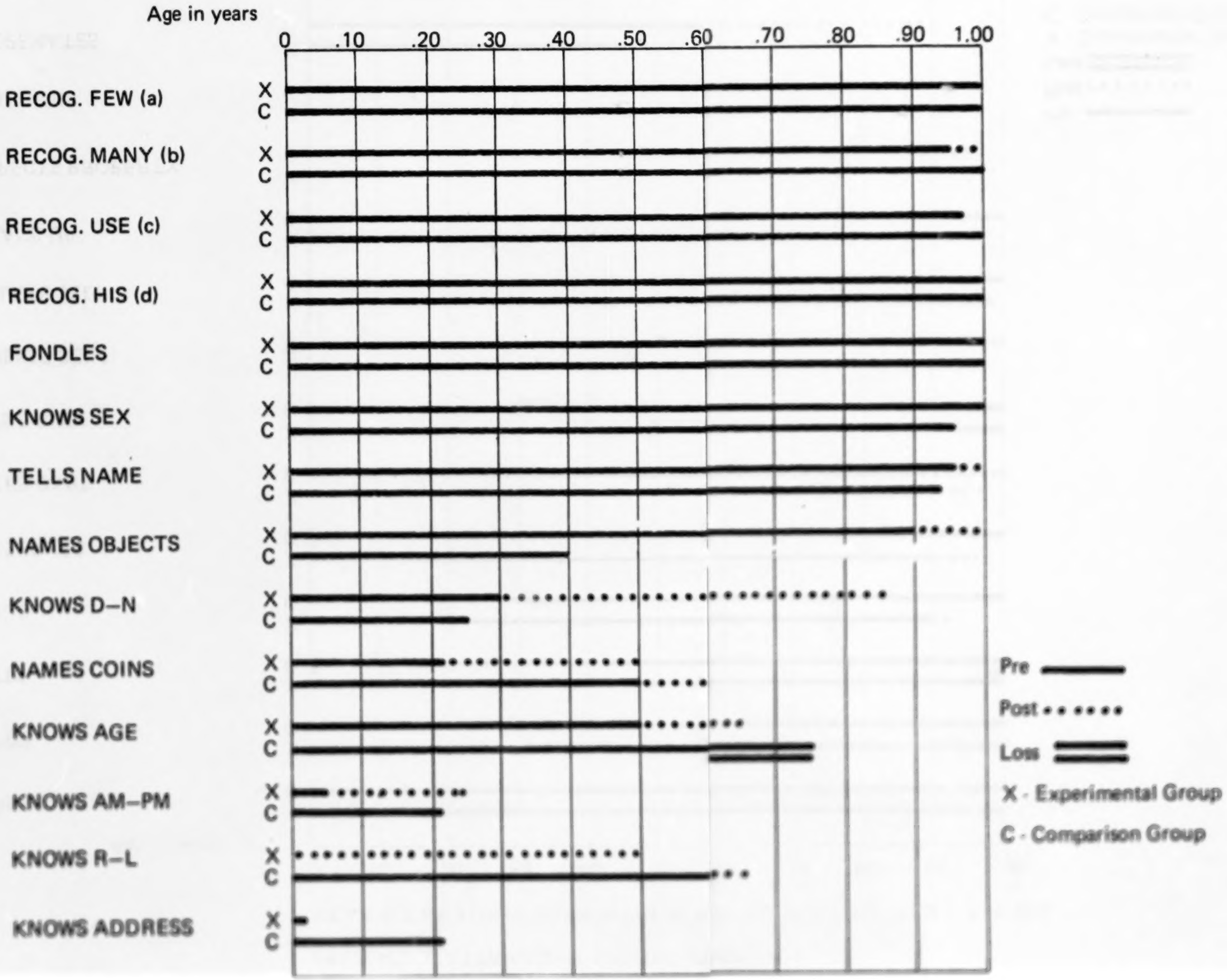


CHART B-2-O
PRESCHOOL ATTAINMENT RECORD (IDEATION)

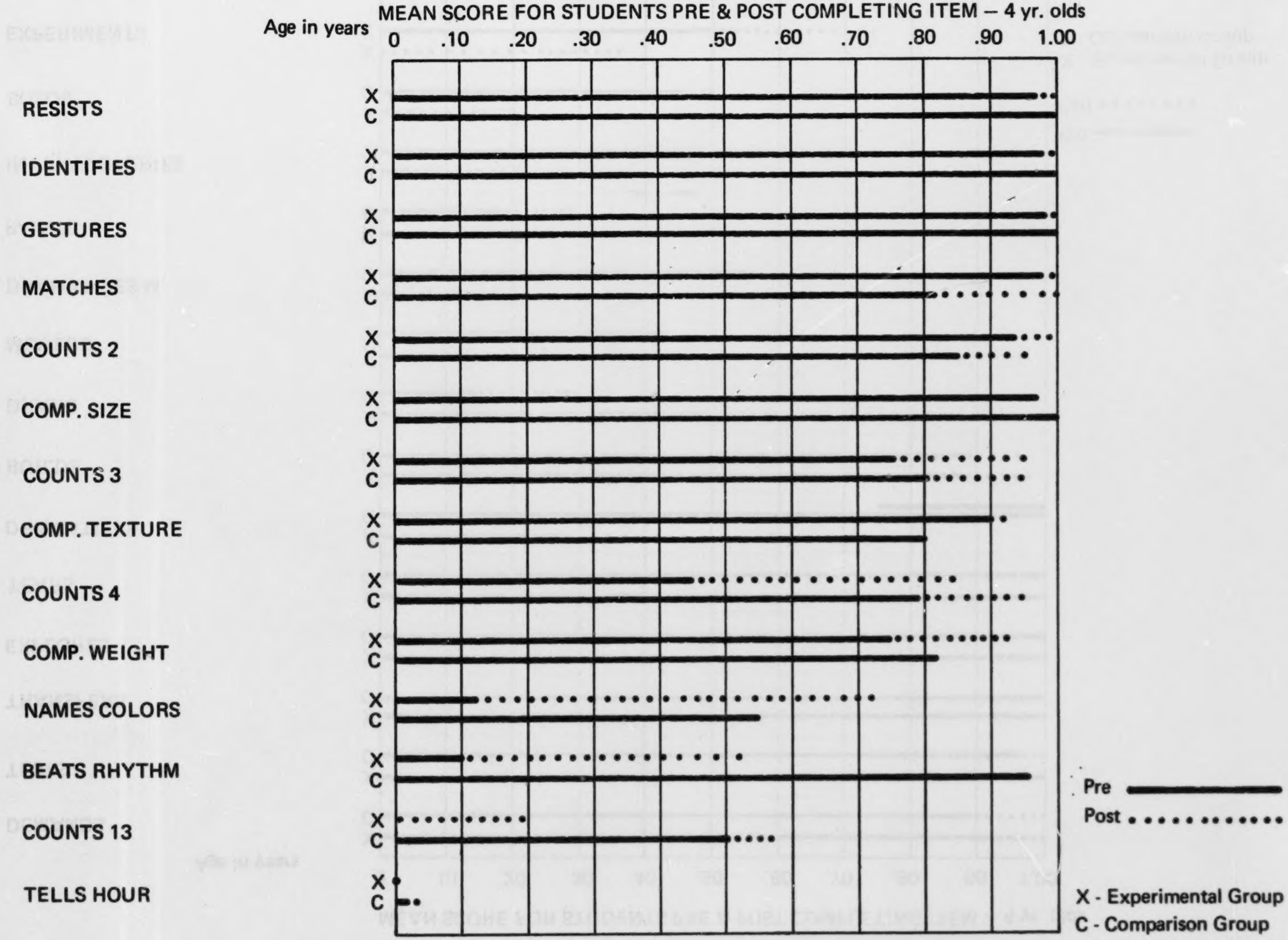
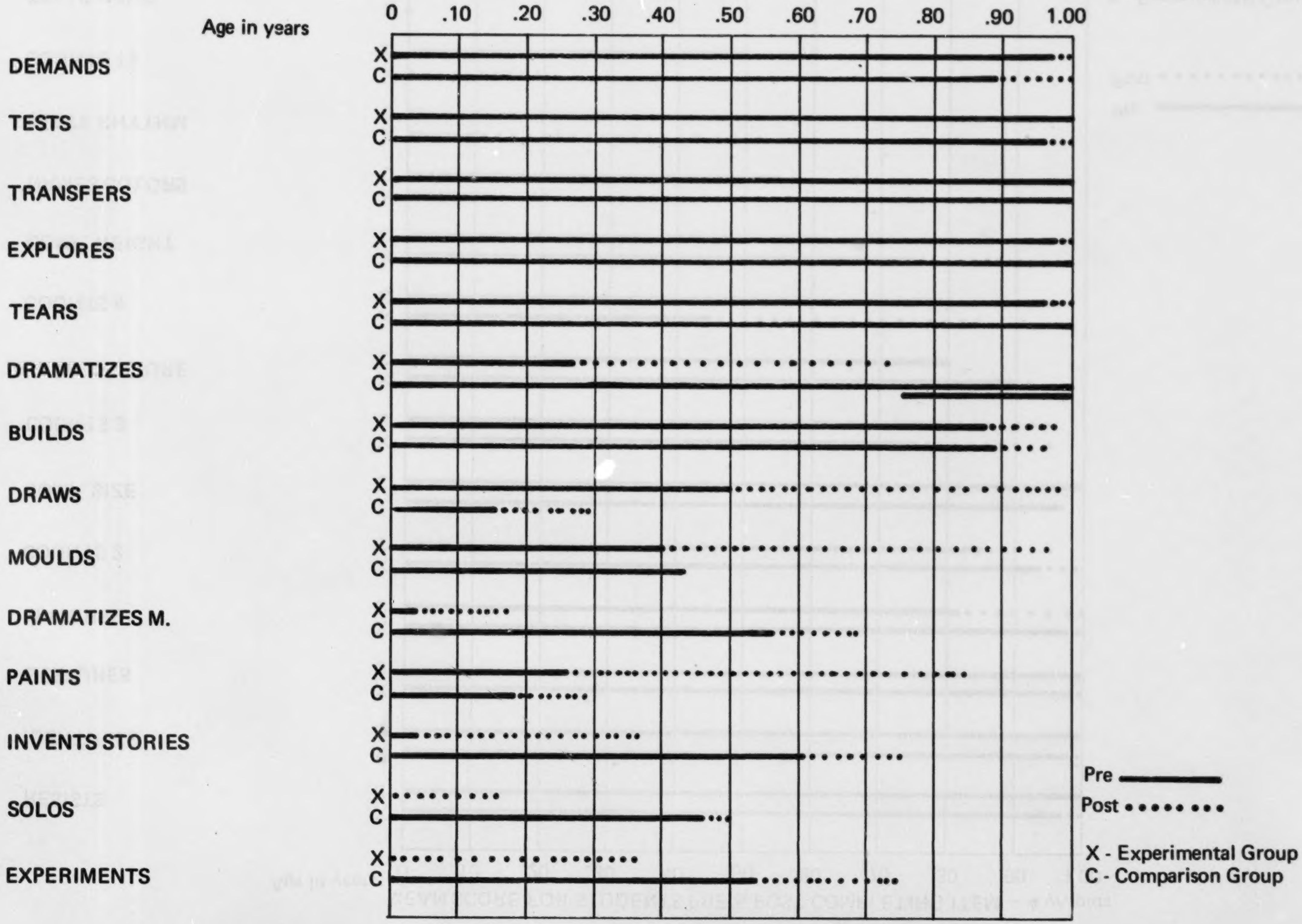


CHART B-2-P
PRESCHOOL ATTAINMENT RECORD (CREATIVITY)

MEAN SCORE FOR STUDENTS PRE & POST COMPLETING ITEM — 4 yr. olds



APPENDIX C

DETAILED COMPARISON OF PUPIL PERFORMANCE ON THE ENGLISH AND SPANISH VERSIONS OF THE CHILD PERFORMANCE CHECKLIST

As pointed out in the text, the Child Performance Checklist was to have been administered on a pre- and posttest basis. However, delays in development of the test resulted in administration of only one form in the spring of 1969. This form, however, was administered in both the English and Spanish versions to permit a test of the hypothesis that these children would provide better responses to the Spanish than to the English version. The same test form was administered to both three- and four-year-old experimental pupils. Since this is considered a "mastery" test related to the curriculum of the Laboratory program, the test was not administered to the comparison pupils.

Chart C-1 relates to the three-year-old pupils; Chart C-2 relates to the four-year-olds. On 8 of 14 items, the three-year-olds scored higher on the Spanish version of the test item than on the English version; on six items the reverse situation occurred. For the four-year-old pupils, however, there was a statistically significant higher scoring on the Spanish version than on the English version of the test. The Spanish version score was higher on 10 of the 14 items while the score was higher on the English version only for the items Pitch Discrimination, Obeying Commands, Puzzle Completion, and Repeating Patterns.

CHART C-1

CHILD PERFORMANCE CHECK LIST – 3 yr. olds – MCALLEN E. C. CENTER (1968 - 69) MEAN SCORE*

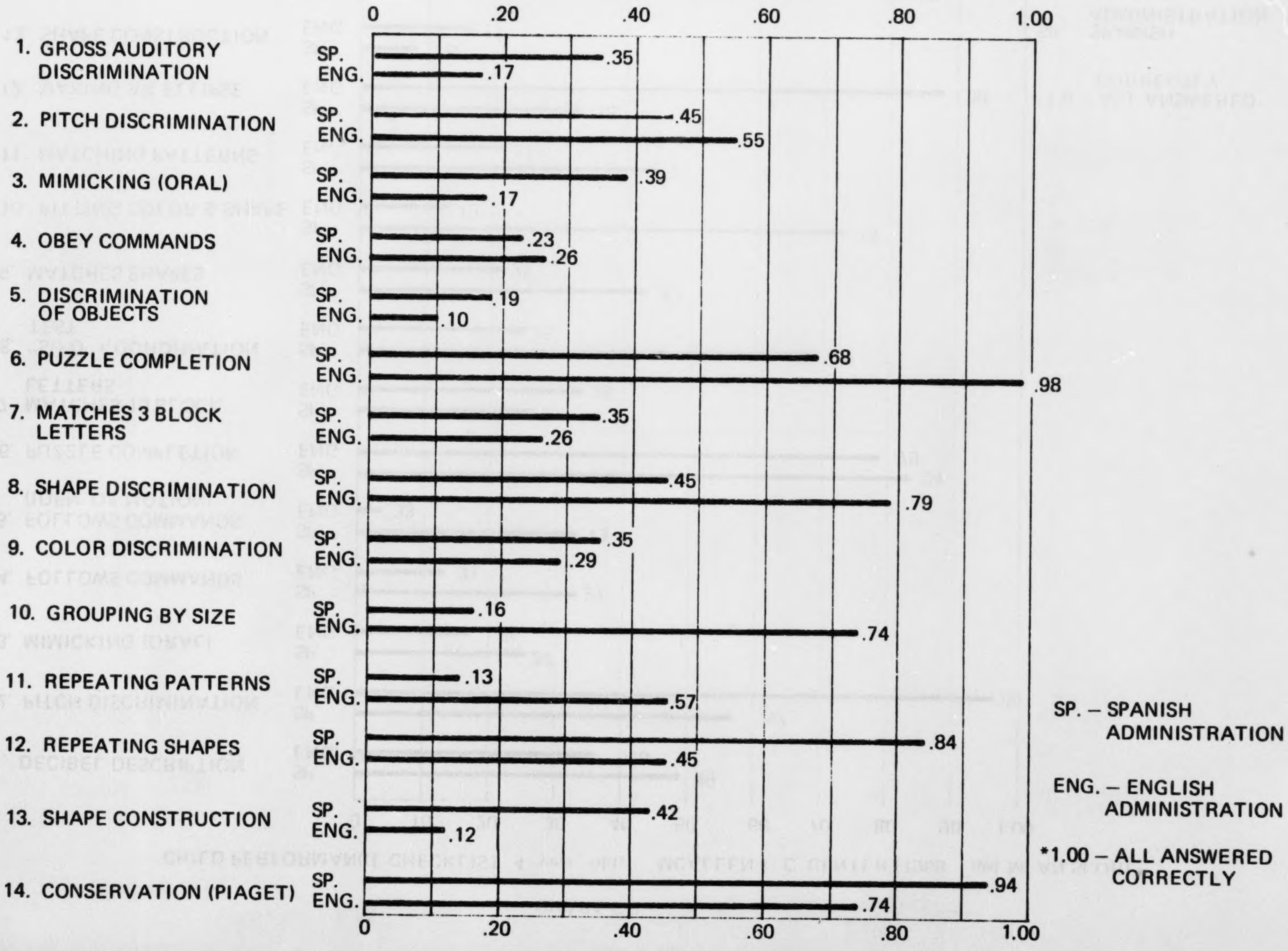
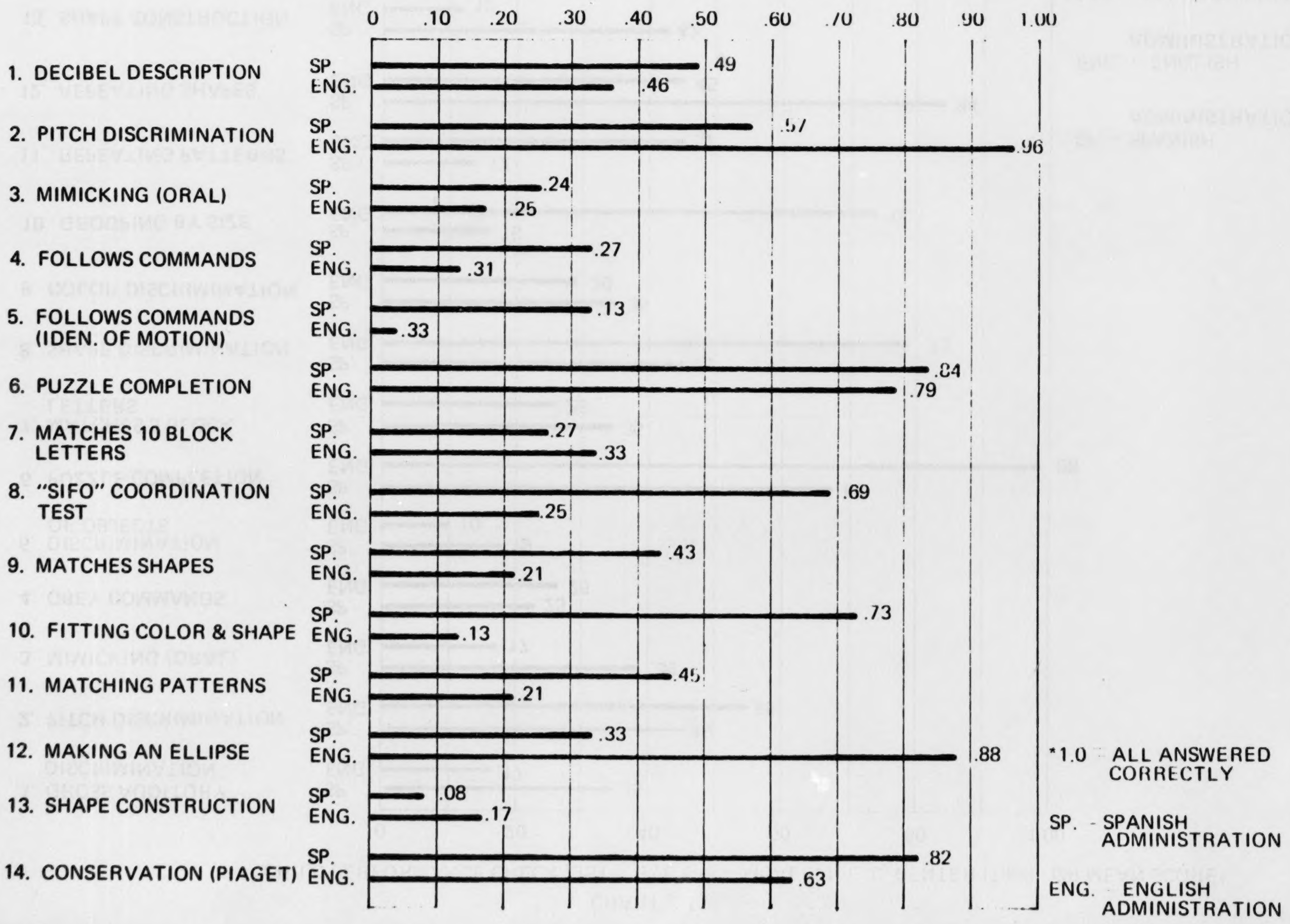


CHART C 2

CHILD PERFORMANCE CHECKLIST, 4–year olds – MCALLEN E. C. CENTER (1968 69) MEAN SCORE



APPENDIX D

RESPONSES OF PARENTS TO PARENT INVOLVEMENT SCHEDULE AND COMPARISON OF PUPIL PERFORMANCE RELATED TO PARENT INVOLVEMENT "TREATMENT" GROUPS

1. **Analysis Plan for Parent Involvement Schedule**
2. **Comparison of Pupil Performance**

PARENT INVOLVEMENT PROGRAM

This program was initiated with the hypothesis that the involvement of the parents in the educational process would not only be good in itself but would have a carryover effect on their children's education.

This program was evaluated with both objectives in mind. First, an analysis of parent involvement was made (see below); and secondly, an attempt was made to determine if there was a relationship between the parental involvement and the child's achievement (Pre-test - Posttest PAR by Parental Involvement Groups I & II).

ANALYSIS PLAN FOR PARENT INVOLVEMENT SCHEDULE (D – 1)

Parent Involvement Schedule

To permit a comparison of the effects of the parent involvement program, the responses of the parents were accumulated, question by question, separately by the several treatment groups listed. Thus, the responses of Group I were accumulated by question; the responses of Group II were accumulated by question; etc. The responses were then quantified by assigning weighted scores to each possible response to each question, summing these scores, and averaging the results by dividing the total weighted score by the number of parents in the treatment group. The method of weighting for each question used in this analysis follows:

Weighting System for Allowed Responses

MNC = Mean of No. of Contacts
MNR = Mean of No. of Responses

Question	Yes Responses	Mean of No Resp.
3. Have you heard about Mr./Mrs./Miss (the Community Agent)?	See "3a"	(MNR) (-.1)
a. How many times did she/he contact you?	(MNC) (.1) -- go to 3b	
b. What do you think Mr./Mrs./Miss is trying to do? (Compute for each group the percentage of responses which indicate no (or little) knowledge of purpose.		(%) (-1)
4. Have you visited the school which your children attend?	(%(1) -- go to 4d	
d. Did you make any changes at home or with your children as a result of this visit?	(%) (2)	
5. Has your child's teacher visited you since last October?	(%) (1) -- go to 5b	
b. How many times	(%) (in 5) (MNR)	
6. Do you think you could go to school to discuss your child with his teacher or principal?	(%) (1) -- go to 6b	
b. Have you done so this year?	(% yes) (2)	
7. Have you attended any meetings that the school has sponsored, etc.?	(%) (1) -- go to 7b	
b. How many meetings did you attend?	(Mean No.) (.5)	
9. Have you helped in any way at the school?	(%) (2)	
10. Have you attended any classes which are provided for adults?	(%) (3)	
12. Are you presently a member of one of the Parent Groups, etc.?	(%) (2)	

Question	Weighting System for Allowed Responses
	MNC = Mean of No. of Contacts MNR = Mean of No. of Responses
	Yes Responses · Mean of No Resp.
16a. How many grades do you think a boy should complete before he finishes school? Sum answers by weighting as follows: 9th grade (% of total respon.) (.5) 12th grade (% of total respon.) (1.0) 16 (% of total respon.) (2.0)	-- Divide Sum by 2
b. How many grades do you think a girl should complete .....?	Calculate as in 16a.
17. Considering how things are going in your family, how many grades do you think your child will complete?	" " " "
*22. Young children often like to ask questions about things. Do you answer................	All Ques. (%) (3) · Most Ques. (%) (2) · Few Ques. (%) (1) · No Ques. (%) (0)
*23. What do you do if questions are difficult?	Refer or Seek Help (%) (1) · Answer as Able (%) (0) · Ignore or Change Subject (%) (-1)
*24. How often do you read to your child?	Once ea. Day (Sum) (4) + 3-4 times/wk. Sum) (3) + 1-2/wk. Sum) (2)+ 0-1/wk. Sum) (1)
**29. Have you done any of the following so that your child would do better in school?	Provided Work Place (Sum (1) + Improved lighting, etc. Sum (1) + Added educ. books/mags. Sum (1) + Required Daily Study Sum (1) Total Sum Divided by "N"

* These items for Treatment Groups T_1 and T_2 only.
** These items for Treatment Groups T_3 and T_4 only.

The scores for each treatment group were then listed by question and the question scores summed as shown in the following table.

TABLE D-1

Weighted Scores for Involvement Reported On Parent Involvement Schedule by Parent Group

Question Number	Weighted Score for Each Question for Parent Group+			
	T_1	T_2	T_3	T_4
3	2.34	2.34	2.54	-1.1
4	1.73	1.39	2.56	.73
5	1.87	2.61	1.54	2.90
6	2.26	2.08	1.89	1.27
7	3.20	3.03	2.50	.86
9	1.82	.67	.22	.36
11	.82	1.32	.66	.27
12	.90	.73	2.00	.00
16	1.38	.89	.90	1.35
17	1.47	1.00	.94	1.22
*22	1.52	2.18	*	*
*23	.18	.00	*	*
*24	2.10	1.38	*	*
**29	**	**	1.56	1.18
Weighted Total	20.59	19.62	17.31	9.04
Total Adjusted To Exclude Noncomparable Items	17.79	16.06	15.75	8.96

+Treatment Group Definitions

T_1 = Families with children in E.C.C. only or in E.C.C. with others in school other than Central Elementary

T_2 = Families with children in E.C.C. and in Central Elementary

T_3 = Families with children in Central Elementary who have participated in home group meetings.

T_4 = Families with children enrolled in Central Elementary and who, the records indicate, did not participate in Parent Involvement activities

* These items apply only to Treatment Groups 1 and 2.

** These items apply only to Treatment Groups 3 and 4.

Hypotheses IV and V

The Duncan Multiple Range Test was applied to data gathered from the Parent Involvement Schedule (outlined and summarized on preceding page) to determine whether or not significant differences existed between groupings.

Duncan Multiple Range Test (k=4)

	A (T_4)	B (T_3)	C (T_2)	D (T_1)	Shortest Significant Range
Means	8.96	15.75	16.06	17.79	
8.96	---	6.79 *	7.10 *	8.73 *	$R_2 = .74$
15.75	---	---	.31	2.04 *	$R_3 = .79$
16.06	---	___	---	1.73 *	$R_4 = .83$

* Significant to (.05 level)

N.B. This purports to show no more than the relative involvement of the various groups in the program and a hierarchical analysis of their involvement (See preceding page for description of each group).

Findings:

The significant differences found between all groups except (T_2-T_3) tend to support the hypothesis.

Response Patterns to Parent Involvement Schedule (Nonweighted)

In addition to the weighted response treatment of the Parent Involvement Schedule, the interview questions have been analyzed in terms of the predetermined goals of the Parent Involvement program. This analysis indicates that progress has been achieved in respect to a number of the goals.

Goal: To establish and maintain effective channels of communication between the home and the school.

Ques: Have you been to visit the school which any of your children attended this year?

97% of the parents answered "yes."

Goal: To raise the aspirations and expectations of parents about their child's achievement in school.

Ques: How many years of school do you think a boy (a girl) (your child) should complete before he finishes school?

Boy:	26% favored college graduation; 51%, high school graduation; 27% considered completion of the ninth grade acceptable.
Girl:	26% favored college graduation; 66%, high school graduation; 8% considered completion of the ninth grade satisfactory.
Own Child:	30% favored college graduation; 66% high school graduation; and 4% considered completion of the ninth grade acceptable.

Goal: To involve parents in the regular instructional program and in other school-sponsored activities.

Ques: Have you attended any meetings that the school has sponsored, such as discussions or demonstrations?

96% of the parents answered "yes."

Ques: Have you helped in any way at school? (classroom participation, field trip supervision, help on special projects?)

47% reported such assistance.

Goal: To organize an operational parent group which can work with the school on specific problems in which community involvement is desirable.

Ques: Are you presently a member of one of the small groups that meet in the neighborhood homes?

40% of the parents answered "yes."

Goal: To encourage parents to come to the school and visit with the teacher concerning positive and negative aspects of their child's social and academic behavior.

Ques: Do you feel that you could go to school to discuss your child with his teacher or principal?

93% of the parents answered "yes" compared to
73% of the random selection at Central
59% visited the staff at the ECC
27% had done so at Central

Goal: To develop materials and techniques by which parents may gain insights concerning the perceptual and conceptual development of children.

Ques: Do your children ever ask to be read to: If "yes", do you read to them? These parents seemed to evidence considerable insight concerning the importance of reading to a child.

78% answered "yes", (33 parents)
32 parents fulfilled this request.

Goal: To encourage parents to enroll in classes provided by local adult education programs.

Ques: Have you attended any classes which are being provided for adults?

40% of the parents attended classes.

Goal: To develop awareness of the community and its services.

Ques: How are people helped who are in need of food, clothing, or other things?

58% of these had used one service at some time.
68% of the parents were aware of at least one service.

COMPARISON OF PUPIL PERFORMANCE (D - 2)

An analysis of variance was done to see whether the children of the parents in Group I (which scored highest in involvement) did better on their PAR Posttests than the children of parents in Group II. (The analysis was unfortunately limited to these two groups as there were no PAR scores for all the children of parents who were in Groups III and IV. Since there was a significant difference between Groups I and II but not as great as that between Groups I and IV, the hypothesis that parental involvement has a positive effect on their children's education should remain testable under these conditions.) The F-table appears below.

F-Table

Source	Mean Square	df	F-Ratio
Between Groups	4.89	1	.025
Error (G)	192.28	39	
Within	355.47	41	
Group Mean	I 117.31	II 116.76	

The analysis indicates that the positive difference between Group I and II is not statistically significant.

APPENDIX E

STATISTICAL COMPUTATIONS

Statistical Analyses

Hypothesis I -

"t-test" comparison of 3- and 4- year olds on the PAR (Pretest)

Group	Mean	$S_{\bar{X}_1-\bar{X}_2}$	X^2	N	t
3-year (C)	130.70	4.4223	407263	24	5.8077*
3-year (E)	103.68		494264	45	
4-year (C)	116.4	36.9200	228755	17	.3470
4-year (E)	106.9		1727273	45	

* significant to the ($p=.05$) level

Hypothesis II -

Difference analysis (Pre-Post difference) between Experimental and Control groups, by age:

Ex - 3		C - 3	
d_1		d_1	
d_2		d_2	
.	vs.	.	
.		.	$t = 7.283$, $p<.005$
.		.	
.		.	d.f. = 57
d_{38}		d_{21}	

and

Ex - 4		C - 4	
d_1		d_1	
d_2		d_2	
.	vs.	.	$t = 3.339$, $p<.005$
.		.	
.		.	d.f. = 55
d_{39}		d_{18}	

	Ex-3	C-3	Ex-4	C-4
Mean Gain (Pre-Post)	33.21	5.81	7.46	2.06

	Totals Gain
Ex.	20.17
C	4.08

N.B. It should be noted here, a Pre-test - Posttest "t-test" (correlated means) indicated the following:

			1-tailed "p"
3 - year Experimental	t = 13.284	d.f. = 37	<.005
3 - year Comparison	t = 2.800	d.f. = 20	<.005
4 - year Experimental	t = 8.469	d.f. = 38	<.005
4 - year Comparison	t = 1.515	d.f. = 17	n.s.

In addition to the analyses reported on the preceding page, a Pre-Post Analysis of PAR AQ's (Physical, Social and Intellectual) was done for each of the Experimental Age Groups, as follows:

Physical - Three-Year Old

Source	Mean Square	d.f.	F-Ratio	p
Trials	13468.3676	1	179.35	.0000
Error(T)	75.0949	33		
T Means	1 115.7941	2 143.9412		

Social Three-Year Old

Source	Mean Square	d.f.	F-Ratio	p
Trials	13021.7794	1	75.182	.0000
Error(T)	173.2037	33		
T Means	1 110.2834	2 138.0588		

Intellectual - Three-Year Old

Source	Mean Square	d.f.	F-Ratio	p
Trials	39072.0588	1	172.125	.0000
Error(T)	226.9982	33		
T Means	1 87.2647	2 135.2059		

Physical - Four-Year Old

Source	Mean Square	d.f.	F-Ratio	p
Trials	5314.4100	1	60.827	.0000
Error(T)	87.3692	49		

T Means	1	2
	112.3800	126.9600

Social - Four-Year Old

Source	Mean Square	d.f.	F-Ratio	p
Trials	82.8100	1	2.017	.1584
Error(T)	41.0549	49		

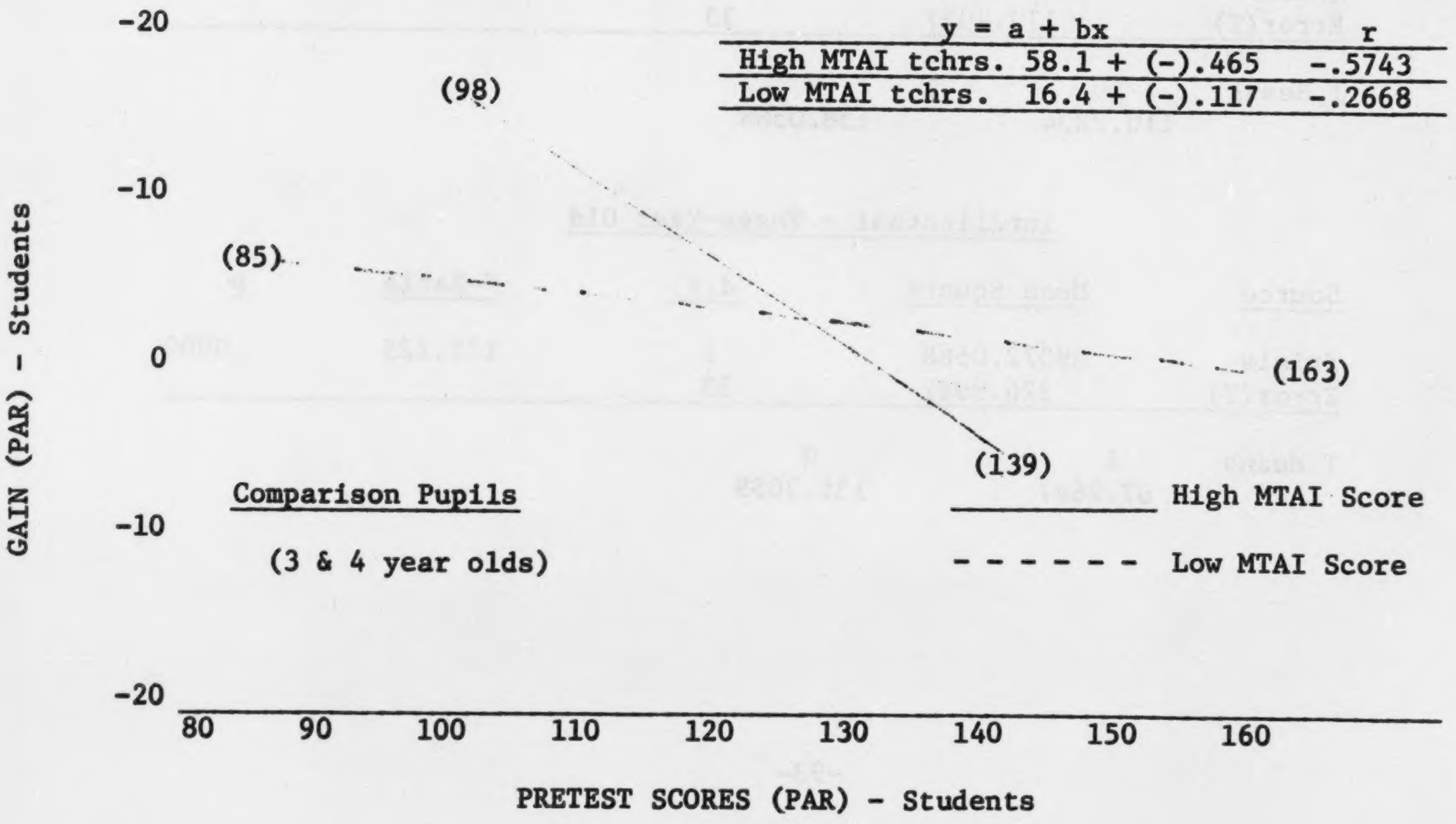
T Means	1	2
	118.3000	116.4800

Source	Mean Square	d.f.	F-Ratio	p
Trials	9082.0900	1	218.748	.0000
Error(T)	41.5186	49		

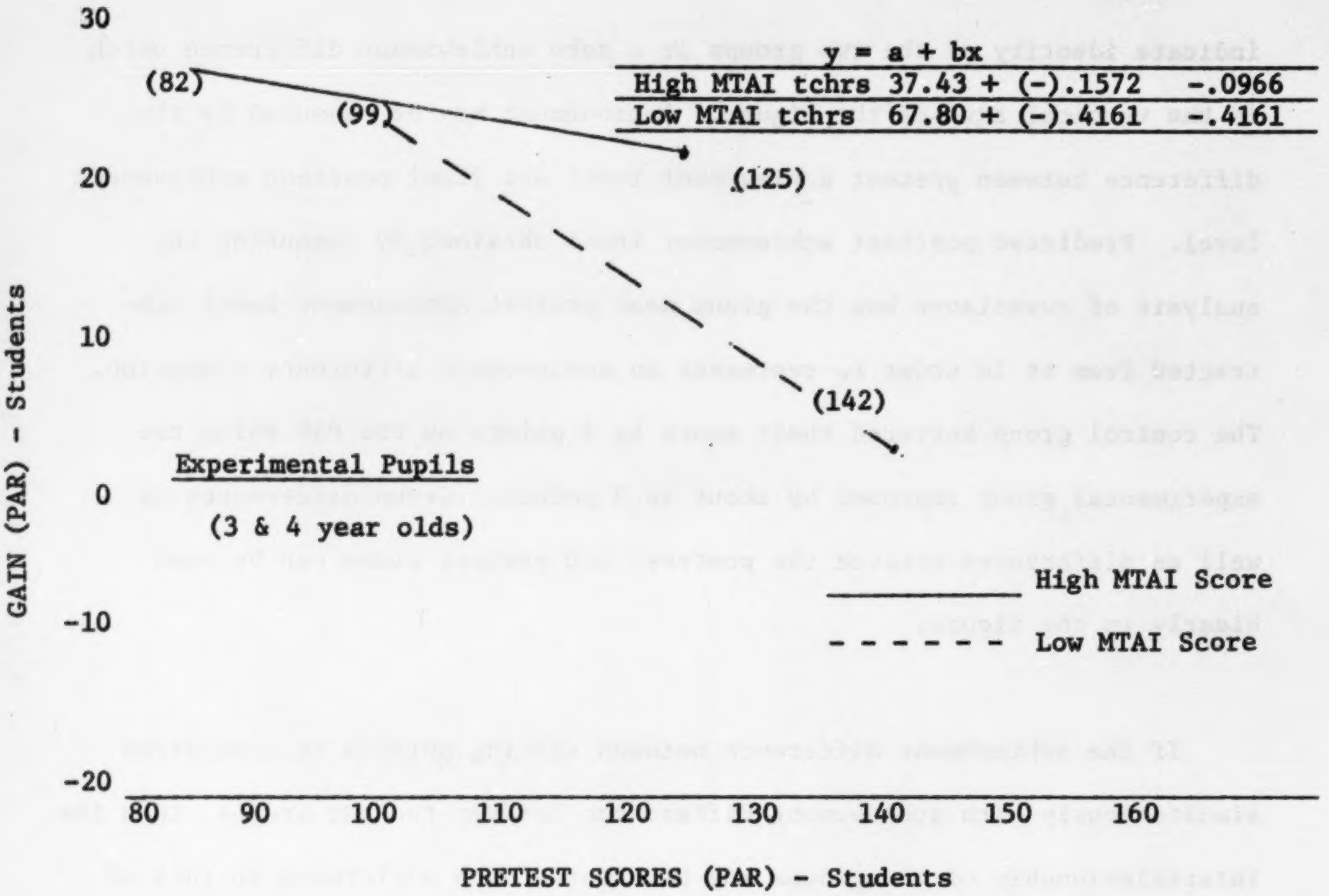
T Means	1	2
	107.0800	117.2000

Hypothesis III -

Regression lines were plotted for both the Comparison Group and the Experimental Group, as follows:



	y = a + bx	r
High MTAI tchrs.	58.1 + (-).465	-.5743
Low MTAI tchrs.	16.4 + (-).117	-.2668



Prediction Analysis of Achievement Gain Differences

Chart VI on page 42 represents predicted achievement differences between experimental and control groups at both pretest and posttest periods. The graph is intended to summarize an analysis of covariance[1] computed on PAR total A.Q. scores which was conducted to determine if group differences exist for pupils who may be considered to be matched at pretest time in their achievement level. This matching can take place if an ability level is selected as a point of departure at pretest time which is typical of both groups. The grand mean of both groups of pupils on the PAR at pretest time was chosen to be typical; therefore, there are no group differences at pretest time. This is expressed in Chart VI by concentric circles which indicate identity of the two groups or a zero achievement difference which is the vertical axis of the figure. Improvement may be measured by the difference between pretest achievement level and final posttest achievement level. Predicted posttest achievement level obtained by computing the analysis of covariance has the grand mean pretest achievement level subtracted from it in order to represent an achievement difference dimension. The control group bettered their score by 3 points on the PAR while the experimental group improved by about 16.5 points. Group differences as well as differences between the posttest and pretest times can be seen clearly in the figure.

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[1] Bottenberg, R.A. & Ward, J.H., Applied Multiple Linear Regression, 6570 Personnel Research Lab, Lackland AFB, Texas, 1962.

If the achievement difference between testing periods is considered simultaneously with achievement differences between the two groups, then the interrelationship of the groups may be treated as a difference in rate of improvement. That is, the experimental group improves 13.5 PAR units more during the same time period that the control improves about 3 points. This advantage of the experimental group can be expressed as a difference in absolute level of posttest achievement as well as a difference in rate of gain of achievement.

Hypothesis V

An analysis of variance of the differences of the PAR (Pre-test) - (Posttest) scores between groups of pupils categorized on the basis of parental involvement.

Source	Mean Square	d.f.	F-Ratio	p
Groups	4.8964	1	.025	n.s.
Error(G)	192.2822	39		

Other Findings

Finding #1

An analysis of variance for comparison of scores achieved on the PAR (Posttest) by children grouped as to physical or health status, as follows:

Group I - Children with no defects
Group II - Children with defects which had been corrected during the year
Group III - Children with defects which had not been corrected

k = 3; Group I = 92 subjects; Group II = 25 subjects and Group III = 27 subjects

Source	Mean Square	d.f.	F-Ratio	p
Groups	178.4223	2	.446	.6469
Error(G)	399.9686	141		

Finding #2

An analysis of variance of the sub-scores obtained on the PAR by children grouped by sibling position, as follows:

Group I - First or second born child
Group II - Child 'lost' in the middle
Group III - Second to last child
Group IV - Last child born

Physical Sub-scores

	I	II	III	IV
Means	125.7	119.4**	121.5	129.7

F-Ratio = 3.203; p = .025**

Social Sub-scores

	I	II	III	IV
Means	115.7	107.0**	111.8	122.0

F-Ratio = 4.97; p = .0030**

Intellectual Sub-scores

	I	II	III	IV
Means	111.8	103.6**	108.4	118.3

F-Ratio = 4.793; p = .0037**

Other Findings (continued)

Finding #3

The Wilcoxon Matched-Pairs Signed Rank Test was used to compare the scores obtained by three- and four-year-old children on the Spanish Version vis-a-vis those obtained on the English Version of the Child Performance Checklist.

Wilcoxon - Three Year Old

Summation of ranks with less frequent sign = T = 205.5

$$\text{Mean} = u_t = \frac{N(N+1)}{4} = \frac{30(31)}{4} = \frac{930}{4} = 242.5$$

$$\text{Standard Deviation} = \frac{N(N+1)(2N+1)}{24} = \frac{30(31)(61)}{24} = \underline{48.6}$$

$$z = \frac{T - u_t}{S.D.} = \frac{205.5 - 242.5}{48.6} = \frac{-37}{48.6} = -.805$$

for $z \leq -.805$, $p = .210$ (n.s.)

Wilcoxon - Four Year Old

Summation of ranks with less frequent sign = T = 145.0

Mean = u_t = 203

Standard Deviation = 42

$z = -1.375$

for $z \leq -1.375$, $p = .08$ *

* Another comparison by the Sign Test indicated significance at the p = .05 level.